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To study the needs for orientation and mobility training in Los Angeles County, project a comprehensive training program, and demonstrate a model service in representative regions, 51 blind adolescents (23 girls and 28 boys) ranging in age from 13 to 21 were given an average of 108 class periods of intensive, individual training by orientation and mobility specialists. Each instructor had five or six students; about 100 periods of instruction were found to be necessary to develop mobility skills. Parents' cooperation was solicited by conferences with the specialists and a parent training program. The tendency of parents to overprotect their blind children, especially their girls, was found to be a major limiting factor. The students tended to have a limited knowledge of their environment, were lacking in physical development, and made limited use of the training because they had developed few travel needs beyond their homes and the school. Included are discussions of related projects, case histories, and copies of evaluation and followup forms. (LE)

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# DEMONSTRATION OF HOME AND COMMUNITY SUPPORT NEEDED TO FACILITATE MOBILITY INSTRUCTION FOR BLIND YOUTH

Rehabilitation Services Administration
Project

Francis E. Lord
Lawrence E. Blaha

Special Education Center
Department of Special Education
California State College, Los Angeles

1968

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U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
OFFICE OF EDUCATION

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# DEMONSTRATION OF HOME AND COMMUNITY SUPPORT NEEDED TO FACILITATE MOBILITY INSTRUCTION FOR BLIND YOUTH

Final Report

Demonstration Project RD-1784-S

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# ACKNOWLEDGEMENTS

The central purpose of this project is to demonstrate the value of orientation mobility training for blind youth in Los Angeles County and to stimulate the planning of a permanent program. Throughout this project and two earlier ones the Principal Investigator, Mr. Lawrence Blaha, was an inspirational and constructive leader. He deserves major credit for creative planning of the instruction and the work of the able field staff. His comprehension of the field of orientation and mobility training and his untiring patience were an inspiration to all who were privileged to be a part of the entire program. His untimely death prior to the termination of this project was a great loss not only to this endeavor but to the entire field of service for the blind. The professional staff which he assembled, especially Anthony J. Talarico and Dennis W. Schimer, proved to be his able disciples and deserve special credit for the quality of service which they brought to the community as mobility specialists. The programs for orientation mobility instruction which are now being instituted in the Country will remain as a testimony to Mr. Blaha's able leadership and the high standards of service which he espoused.

F. E. Lord
Project Director
August 1968

## DEMONSTRATION OF HOME AND COMMUNITY SUPPORT NEEDED TO FACILITATE MOBILITY INSTRUCTION FOR BLIND YOUTH

### SIGNIFICANT FINDINGS

This demonstration project is the final phase of three years of effort related to the establishment of orientation mobility instruction in the schools of Los Angeles County. The first phase, which was reported earlier, dealt with a survey of the needs and resources as well as a projection of a master plan of mobility instruction for the County. The demonstration phases reported here attempts to illustrate a model program with special emphasis upon utilizing the contributions of teachers and parents in the training. A model instructional program was established in representative sections of the County. Resource teachers who had received training in orientation and mobility instruction provided assistance in the basic techniques while the orientation mobility specialist concentrated upon cane techniques. Parents were given an interpretation of the program through group instructional periods, conferences with the specialists, and by an opportunity to observe the specialist at work.

Fifty-one youths, high school and college age, received instruction in accordance with the model program as projected by the staff. Instruction was on an individual basis with a typical case load of five per instructor.

Resource teachers who had completed a college course in the fundamentals of orientation and mobility including the basic techniques were able to provide instruction in this phase of the program. However, the teachers did report experiencing a number of limitations such as a lack of time for systematic instruction, responsibilities in the resource room that prevented them from an adequate opportunity to follow up on the campus, and the considerable resistance encountered from adolescents to such techniques as trailing and arm-across-the-body. Such techniques frequently were viewed as either labels of blindness or, more often, as being more appropriate for young children.

The degree of cooperation and assistance provided by parents seemed to be related to their attitudes and abilities to deal with the overall problem of blindness. The prevailing tendency to shelter and overprotect was often a major limiting factor. Parents who had established desirable child-rearing attitudes and practices found no difficulty utilizing the new information on mobility in furthering the development of their adolescents.

Adolescents vary greatly in their need for expanded travel skills. Unfortunately, many adolescents center their life mainly around the home and school. Neighborhood and community relationships often do not exist. The travel needs relating to vocational life have not yet been generated. While orientation and mobility training provides the capacity for a great deal of independence and the development of new social contacts, many adolescents do not use the newly developed skills because of self-imposed limitations originating in childhood and perpetuated into adolescence by parents. It appears that the problem of first priority is to generate natural social and recreational interest in the community, and then to provide the training in orientation and mobility in response to these needs. As the adolescent develops vocational interests, additional needs for travel training may well be served at that point.

# ABSTRACT

This project, during its several phases, was concerned with studying the needs for orientation and mobility training in Los Angeles County, projecting a comprehensive training program, and demonstrating a model service in representative regions. In the final phase, emphasis was placed upon utilizing home and community support to facilitate instruction.

A model training program was planned, and an average of 108 class periods of training was given to each trainee. Fifty-one (51) adolescents were given intensive training by orientation and mobility specialists. Resource teachers received training in teaching basic skills, and parents cooperation was solicited by conferences with the specialists and a parent training program.

The teachers, after receiving instruction in a course on orientation and mobility, were able to teach the basic techniques. However, limitation of time and the lack of some useful physical features such as stairs, curbs, etc., on the campus restricted training. Some adolescents resisted the use of basic techniques such as trailing, arm-across-the-body, etc.

The degree of cooperation and assistance provided by parents seemed to be related to their attitudes and abilities to deal with the overall problem of blindness. The prevailing tendency to overprotect the blind often was a major limiting factor. Parents who had established desirable child rearing attitudes and practices found no difficulty utilizing the new information relating to mobility in furthering the development of their adolescents.

A follow-up survey by an independent observer indicated that many adolescents make limited use of their training because they have generated few needs for training beyond the home and the school.

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# INTRODUCTION

## Previous Projects

In recent years, there has been a great interest in applying the principles of orientation mobility as developed at the Veterans Administration Hospital, Hines, Illinois, to school-aged children and youths. The Department of Special Education at California State College, Los Angeles, has sponsored four projects that are related to this over-all objective. The project being reported here is the last in the series. It may be helpful, at this point, to review the nature of these projects and their inter-relationships.

The initial project dealt with the formulation of a master plan of mobility instruction for Los Angeles County (Lord, 1965). The needs and the resources of the County were surveyed, and recommendations were made relating to staffing, services, areas, and phases in program development. Some findings of this initial survey were:

1. 280 students who were using braille were identified.

2. 73 percent were reported to be congenitally blind.

3. 60 percent had no formal training in orientation and mobility. The remaining 40 percent had only incidental training.

4. It was recognized that at least four groups of blind children and youth were identified as needing services. These were the early elementary age group, the later elementary age group, the secondary level, and post high school and under 21 years of age groups. The mobility needs of each group were identified, and recommendations were made relative to the appropriate agency to provide the recommended service.

5. Geographic areas for establishing regional services for itinerate instruction in orientation and mobility were identified, and recommendations set forth for a complete program of service.

Two projects in the series were concerned with measuring orientation and mobility skills of young blind children (Lord, 1966,1967). While these measurements have a somewhat indirect relationship to the demonstration projects supported by the Social Rehabilitation Administration, they are reviewed briefly here since they do represent a vital part of a research and demonstration program carried on simultaneously by the staff. The research project was conducted in two phases and they will be described separately.

### Phase 1. Identification of Orientation and Mobility Skills Relating to Developmental Tasks for Young Blind Children

The first phase of this project had for its purpose the identification of orientation and mobility skills related to the developmental tasks of young blind children, ages three through twelve. A review of developmental studies of normal as well as blind children provided the primary sources for initial identification of these skills. Experienced teachers of blind children contributed lists of competencies and skills needed by children to enable them to work effectively in the school environment. A master list of skills relating to orientation and mobility was compiled from all these sources. The project staff, with the assistance of a professional jury, arranged the selected skills into a set of 42 scales. Each scale contained three or more items (sub-scales) which were arranged in terms of jury judgments on their developmental sequence. The validity of jury-ordering of skills within each sub-scale was checked against the actual performance ratings of a small sample of blind children. The project culminated in a preliminary draft of a set of 42 sub-scales that related to orientation and mobility skills of young blind children. The following is an example of one of the sub-scales:

Using Right and Left

1. Distinguishes right and left on own body.
2. Responds correctly to a command to turn right or left.
3. Uses right and left consistently as an aid to travel.
4. Distinguishes right and left in the environment.

### Phase 2. Preliminary Standardization of a Scale of Orientation and Mobility Skills of Young Blind Children

The objectives of this phase of the study of orientation and mobility skills of young blind children were as follows:

1. To revise the preliminary draft of the orientation and mobility scales that were developed in Phase 1. The revision is hereafter referred to as the Experimental Edition.
2. To prepare a detailed manual for use in administering the scales.
3. To submit the Experimental Edition to a reliability study.
4. To establish preliminary norms for the Experimental Edition.

A master list of skills was compiled from developmental studies and from observations made by experienced teachers of blind children. These skills formed the basis for constructing a scale comprised of 47 sub-scales, each of which had three or more items arranged in developmental order. The initial scaling of the items was done by jury judgment and by field trial with children.

The second stage of the project dealt with the refinement of the scale and the establishment of norms. The Experimental Edition was reduced to 26 sub-scales that related to self-help in travel, formal orientation and mobility pre-cane skills, movement in space, use of sensory cues in travel, and directions and turns.

A test-retest procedure using 41 subjects was employed to test the reliability. Norming data were collected on 173 subjects, ages 3-12, who were representative of elementary age blind children in the United States. All subjects were either blind or possessed light perception only. All subjects possessed intelligence in the normal range and were free from physical disabilities that may interfere with orientation and mobility.

Twenty-four items that possessed an acceptable range of difficulty (20-80 percent) and a high reliability (.91 for entire form) were used to construct Orientation and Mobility Scale for Young Blind Children, Short Form - Experimental Edition. The remaining promising items were used to construct the two following instructional scales: Instructional Tasks in Orientation and Mobility Skills (25 items); Section B, General Orientation and Mobility Tasks (8 sub-scales).

# DEMONSTRATION PROJECT

The project being reported here had for its general purpose the demonstration of an effective program in orientation and mobility training in selected regions of Los Angeles County. The instructional model employed in the demonstration featured the following aspects of an ideal program:

a. The development and use of a carefully defined teaching sequence of essential skills.

b. Plans for maximum utilization of the services of the orientation and mobility specialists supplemented by the teacher and the parents.

c. The development of a schedule of evaluation and reteaching on a longitudinal basis.

d. Demonstration of the premise that training in the basic skills of orientation and mobility should preceed the training in the use of a mobility device, such as the long cane.

e. Experimentation with the adaptation of training to special cases, especially youth who possess low vision, and also to cases who are classified as adventitiously blind.

Los Angeles County has a population of about seven million persons. The school population is estimated to be one and a half million. The public school services are provided through nine districts of which the largest, Los Angeles City School District, serves about 40 percent of the school age children in the County.

The County is composed of about 4,080 square miles of territory that in turn is made up of somewhat unique sub-regions: the central basis that includes most of Los Angeles City proper; a chain of beach cities such as Long Beach, Manhattan Beach, etc.; a northern and an eastern section composed mainly of mountainous terrain and high desert. The proposed demonstration regions in relationship to major school districts within the County are shown in Figure I.

The project center was located at California State College at Los Angeles, which is located about four miles from the center of Los Angeles. The college is in the Los Angeles City School District with which it has an extensive working relationship.

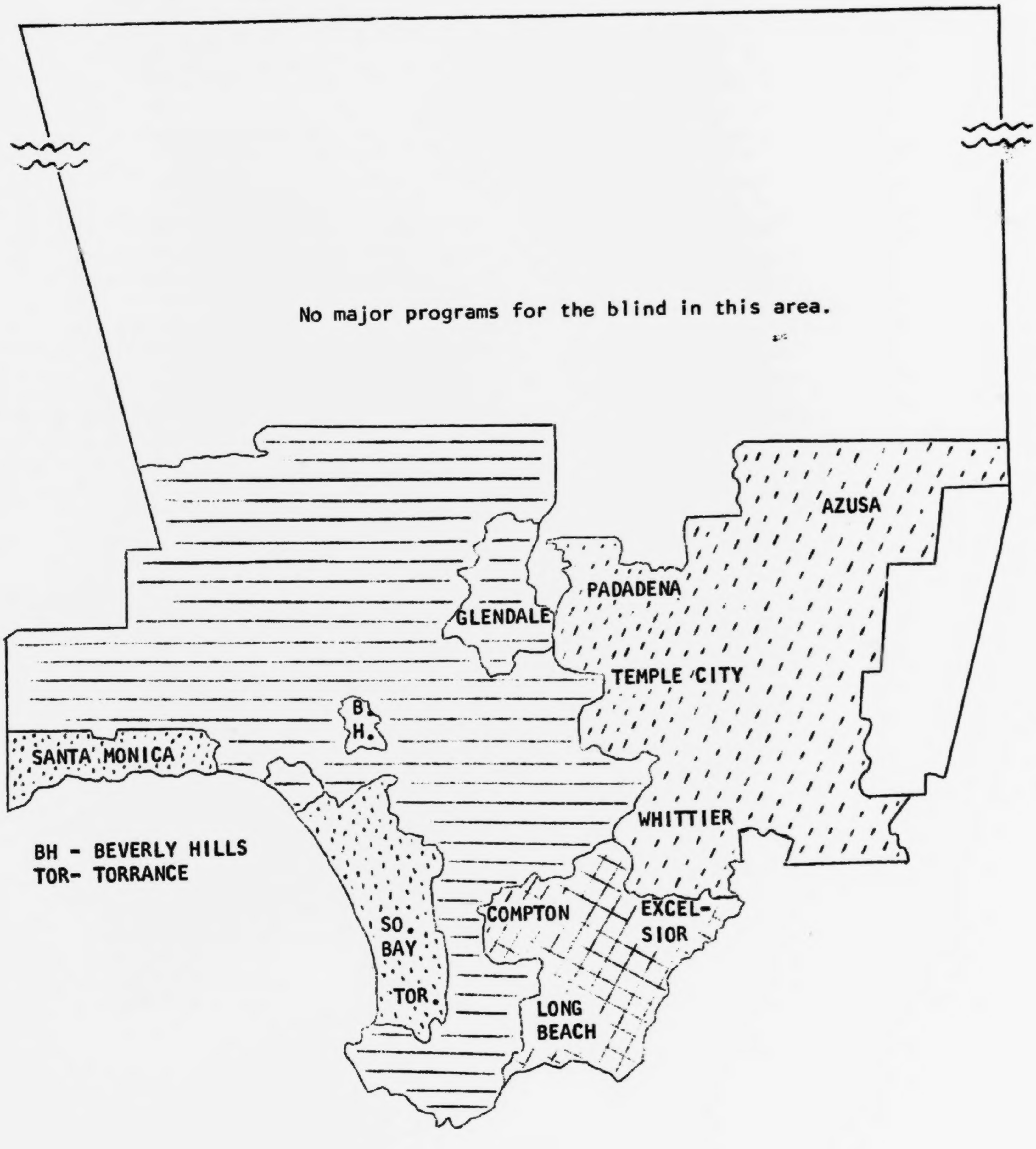
No major programs for the blind in this area.
AZUSA
PADADENA
GLENDALE
TEMPLE CITY
B. H.
SANTA MONICA
WHITTIER
BH - BEVERLY HILLS
TOR- TORRANCE
COMPTON
EXCEL-SIOR
SO. BAY
TOR.
LONG BEACH

Fig. 1. Map of Proposed Demonstration Regions for Orientation and Mobility Training

California has an extensive day school program for visually handicapped children. The current school registration (January 1968) in the State for the visually handicapped is 2,674 children and youth, of which 1,739 are classified as legally blind. One public residential school serves the State, and the present enrollment is 142. The remainder of the cases are served in public school programs of various types.

There were no legal provisions for orientation and mobility instruction before 1967, when the State legislature provided that such instruction may be given in the school on contractual basis with the State Department of Vocational Rehabilitation. Because funds were limited, only five such programs have been initiated. Efforts are now being made to provide for State certification of orientation mobility instruction through the State Board of Education. If such certification is established, school districts may then employ specialists and use public school funds to support the program.

# RELATED PROJECTS

In recent years, a number of attempts have been made to apply the instructional techniques in orientation and mobility that were developed for use with adults to children and youth. Some residential schools for the blind have introduced formal instruction in orientation and mobility while day school classes have been, to date, less successful at initiating such services. A number of special projects supported by Social and Rehabilitation Service (formerly Vocational Rehabilitation Administration) have been undertaken recently that focus upon school age blind youth.

In 1944, Dr. Richard Hoover, an Army sergeant working with blinded soldiers at Valley Forge Army Hospital, developed a systematic method of travel for blinded veterans, employing a long, light, functional cane. The method has been extended and refined at the Veterans Administration Hospital, Hines, Illinois. To prepare orientation and mobility specialists who might apply these techniques, collegiate training programs have been developed in recent years. Today the following programs have been established. Boston College, 1960; Western Michigan University, 1961; Florida State University, 1965; San Francisco State College, 1966; and California State College, Los Angeles, 1967.

The widespread interest in the Hines techniques has stimulated a number of research and demonstration projects with adults and youth. Since the improvement of mobility increases opportunities for blind youth to receive additional education and to improve the likelihood of their employment, there is now great interest in the development of techniques suitable to their needs. If the training of blind youth can be improved, the burden of training at the age of employment and adulthood can be reduced.

Since the school has a somewhat different clientele and operates in a different setting from that of hospitals and rehabilitation centers, it is important that both demonstration and research projects be undertaken to explore the feasibility of mobility training and also to develop more appropriate techniques. Attention is given in the review that follows to three projects carried on in school settings.

# ALAMEDA COUNTY, CALIFORNIA

The demonstration project that has greatest relationship to the program being reported here was carried on in Alameda County, California, in cooperation with San Francisco State College (Wurzberger, 1967). This was a pioneer project that tested a comprehensive plan for itinerant instruction in orientation and mobility in the public schools. Because of its special significance, the report of the project will be summarized in some detail.

## Objectives

The objectives of the Alameda County Project are reported as follows:

> 1. That blind adolescents can be taught orientation and mobility skills in their school and neighborhood with a minimum disruption of their daily schedule.
>
> 2. That this instruction can be itinerant and can be administered from an office intermediate between local and state levels.
>
> 3. That with a minimum of red tape, itinerant orientation instructors can be provided for local resource programs that have too few blind students to require an orientation and mobility instructor of their own.
>
> 4. That travel costs, workloads, and other such data can be made a matter of record.
>
> 5. That an initial answer can be found to the question of how large a geographical area or general population an orientor can attempt to serve before quality of service declines.
>
> 6. That school and rehabilitation departments can work together so that students become known earlier to vocational rehabilitation services.
>
> 7. That schools can do a better job of preparing students for vocational success by helping them toward travel independence during school years that would reduce one difficulty faced later by rehabilitation counselors. (Wurzburger, 1967, pp. 2-3).

The subjects and the educational program for the blind is described in the project report as follows:

> Except for a few high school students, all blind children attending public schools in Alameda and Contra Costa Counties are integrated into classes with sighted children except for periods of braille instruction (both reading and writing) and typing instruction which is done in the Resource Room under the direction of a specially credentialed teacher.

> Some high school students attend high schools that have no local special staff for the visually handicapped and recently an itinerant supplementary instruction program has been organized for some of them.
>
> The resource teacher aids the blind student in clarifying any problems that might arise from his academic subjects, consults with teachers and counselors, and provides information and assistance to teachers who have had no contact with blind persons. Cooperating with school counselors, she helps the blind youngster to adapt to the public school situation, and additionally aids in realistic programming for him. (Wurtzburger, 1966, pp. 3-4)

The blind youths were selected for training by the local staff. Qualifications for their selection were that they possess no travel vision, that they have 5/200 or less vision in the better eye after correction, and that they show promising ability for profiting from the instruction.

Subjects usually were given 4-5 lessons a week, lasting about 40-60 minutes. Evaluations of performance were made by the regular orientation mobility instructor and a second specialist who was not connected with the project.

## Findings

The Alameda County Project emphasizes that the cost of providing instruction depends almost entirely upon two factors--salaries of the instructors and mileage costs for their travel. About 80 percent of the costs were related to instructional salaries and about 10 percent to mileage.

Fifty students received on an average 107 periods of individual instruction for a cost of $62,000. The report relates the per-hour costs to those of similar services by pointing out....

> .....There were 5369 hours of instruction altogether so that costs were $1,240 per student or approximately $11.50 per hour. By way of comparison, orientation and mobility instruction costs less than the typical $12.50 to $15.00 per hour charged by individual therapy and tutoring agencies in the Bay Area, and those agencies do not have the mileage costs which are included in the $11.50. Included in this $11.50 were mileage costs of about $1.20 for each hour of instruction. For example, Family Service Agency actual costs per hour of individual counseling in San Francisco Bay Area range around $15.00 to $17.00 although, because of United Crusade subsidies, a less-than-cost fee is usually charged to clients.

> Now the California Education Code provides $475 per blind student per year to provide transportation to and from school, a total of $6,175 for a school career for Kindergarten through the 12th grade. Every student who is taught to travel to and from school on his own can save the state $475 per year. This level of proficiency was developed by 11 high school students in the demonstration, 2 by the end of their freshman year, 5 by the end of their sophomore year, 2 by the end of their junior year, and 2 by the end of their senior year. Accordingly a total of 18 sets of students' travel allowances totaling $8,550 were made unnecessary. This $8,550 was a potential rather than an actual saving because several of these students continued to accept transportation from their school districts in spite of their independent travel skills for a variety of reasons.
> (Wurzburger, 1967, p. 20)

The report points out that boys exceeded the girls in orientation and mobility achievement.

> ....The mean achievement rank for boys was 17.8 ± 7.28 and for girls 33.2 ± 12.08. With N=25 for both boys and girls, the sex difference in achievement was 8.6 times its standard error of ± 1.79. All 7 of the lowest ranking students were girls and only one of the top 11 students was a girl. Of the 12 lowest ranking students, 10 were girls and of the 12 highest ranking students, 10 were boys.... (Wurzburger, 1967, p. 31).

The probable explanation for the sex differences was believed to be related to the following factors: (1) girls were slightly younger, (2) the girls were less familiar with the school environment, and (3) most of the instruction was given by men, perhaps evoking anxiety in socially immature adolescent girls. The sex difference observed here is an interesting problem relating to instruction,and might profitably be the object of a more careful study.

## CATHOLIC CHARITIES, CHICAGO

### Objectives and Programs

The purpose of the Catholic Charities project was to provide instruction in orientation mobility for blind children enrolled within the regular educational program in grades six to twelve. The specific objectives as stated in the report are as follows:

1. What amount of revision is necessary in the adult-validated orientation and mobility skills to make them most effective for children?

2. How much and how often should orientation and mobility instruction be given to children at different grade levels?

3. What factors seem to relate to the child's ultimate success in orientation and mobility training?

4. What effect does it have upon his academic and social activities?

5. What effect does it have upon enlarging his physical environment?

6. Does orientation and mobility training enable him to have better control over his environment?

A systematic program of instruction was given to 43 blind students, encompassing the school environment, the home community, and public transportation for the older children.

### Conclusions

Major conclusions of the Catholic Charities Project (Costello, 1966, pp. 5-8, selected and condensed) that have important relationships to the project include the following:

1. The mobility skills now used at the Center for Blind and Visually Impaired Veterans, Veterans Administration Hospital, Hines, Illinois, need not be revised for children.

2. Orientation skills and knowledge need to be developed further, primarily because blind children lack experiences with their environment. They have a great need for orientation materials that can be classified as educative rather than rehabilitative.

3. Within the sixth through twelfth grades, frequency of instruction is less related to grade level than to the time that instruction may be first offered to an individual and the attainment of goals that the instructor, parent, and student have recognized as essential.

4. A minimum frequency of instruction seems to point toward at least three sessions of instructions each week, with each session lasting at least 30 minutes for each student.

5. Intelligence, degree of vision, and recency of visual loss are related to orientation and mobility success.

6. Useful travel goals serve as definite motivational factors.

7. Indications point toward an increase in social activities due to increased independence in travel ability.

8. Gradations in extent of travel after training vary from extremely limited travel to unlimited travel.

9. Orientation and mobility training decidedly improves the individual's control over his environment.
    a. Orientation procedures provide a framework of reference.

    b. Sensory training heightens awareness.

    c. Mobility training provides an efficient mode of travel.

10. Progress in independent travel skills is directly related to frequency of instruction. The greatest progress is made by students receiving frequent instructions.

## METROPOLITAN SOCIETY, DETROIT

### Objectives

This 3½-year project (Metropolitan Society, 1968) served 136 blind students (ages 5-21). In addition to instruction during the school year, special summer workshops of 5-week duration were set up for children who were not served by the regular school program in Detroit. Some cooperative services were extended to two adjacent counties and to the Michigan School for the Blind.

The primary objective was to determine the methodology most effective in establishing mobility training in public schools. All children received medical examinations, hearing tests, and psychometric tests. Workshops were designed for teachers and for parents to acquaint them with the elementary concepts of mobility training.

Indoor techniques and cane techniques were taught to the children.

Younger children were taught indoor techniques and given extensive practice in handling home and school environments. Older children were instructed in basic techniques and cane techniques.

A sample of blind children who were mentally retarded were included in the project.

### Conclusions

Some of the major conclusions of the Detroit Project (Metropolitan Society, pp. 60-64, selected and condensed) that have special relevance for the project being reported in this volume are:

1. Blind children and teenagers can be taught to overcome problems that limit their ability to move freely in the world around them. It is feasible to teach effective and safe mobility--outdoors and indoors.

2. Independent movement enhances physical and mental development.

3. Children in two different intelligence categories--average and above-average--can achieve about the same skill and efficiency in mobility. Students with retarded intelligence are more limited but can still improve in basic mobility.

4. Public schools provide many opportunities to develop mobility. By illustrating the rewards of independent travel, the public school environment helps children regard mobility as a useful skill--not as an isolated subject.

5. Techniques utilized in teaching mobility to blind war veterans can be applied successfully to children blinded from birth or early life.

6. A mobility lesson is more effective doubling as a field trip (post office, bus terminal, department store, etc.).

7. Students tend to blame parents for their limited travel experiences.

8. Teachers generally consider the mobility specialist responsible for teaching independent mobility.

9. Teachers and parents alike favor workshops that develop their own understanding of mobility--its philosophy, methods, goals.

# INSTRUCTIONAL PROCEDURES

The success of any training program depends, in large measure, upon such ingredients as a qualified staff, cooperative and supportive participation of all concerned persons, and a carefully designed body of instructional procedures. From its inception the project has enjoyed the full support of the School of Education and Department of Special Education of the College. The outstanding leadership of Lawrence Blaha, Principal Investigator, resulted in the selection of an unusually well qualified staff, as well as in insightful and effective direction of planning and implementation. School personnel, parents, agencies, and the students have given full cooperation.

This section will describe the instructional approach as it relates to the following aspects of the project:

1. The instructional plan for handling major organizational aspects of the program.

2. The outline of teaching units embracing the skill or techniques to be taught.

3. Methods devised to identify the roles and to involve key persons in the student's life, i.e., parents, teachers, administrators, and counselors.

## General Procedures

An initial task of the project involved designing necessary forms and evaluative instruments to support the organizational plan of the project. Forms were developed to record pertinent data, and to facilitate administrative aspects of the program. Two major evaluative instruments were outlined to check student performance and progress and, where appropriate, to indicate areas of needed training or additional emphasis. The Initial Evaluation provided information upon which to plan for the individualized training of each student. The Final Evaluation Form served as a summary of the extent and quality of student performance. A Bi-Monthly Report on each case reported the number of training periods, the number of observations and conferences with parents and teachers, and the general progress and motivation of the case. All forms and instruments were evaluated periodically and refined as experience indicated. (See Appendix A)

## Admission and Scheduling

Once the organizational framework had been outlined, procedures for selection of students were determined. Case finding was greatly facilitated through the utilization of data resulting from the planning study described in the previous chapter. This study, conducted

June 1, 1964 to June 30, 1965, preceeded the initiation of the demonstration project. All students registered with the State of California Department of Education having a visual acuity of 5/200 or less were surveyed. Analysis of the survey revealed 151 adolescents enrolled in secondary public school programs in L.A. County. Selection from this latter group was made utilizing the following criteria:

1. Be an adolescent enrolled in grades 7-12 or be a post-high school individual.

2. Have sufficient social maturity to profit from instruction.

3. Have no additional physical handicap and evidence sufficient energy and physical health to undertake the training.

4. Have 5/200 or less vision in the better eye after correction, and possess little or no usable travel vision.

The planning study, providing a distribution by geographic areas of the County, allowed selections that would be representative of the entire County, and also would be feasible in terms of scheduling daily instruction. Further, the critical importance of physical independence for those approaching higher education or the world of work led the staff to give initial preference to high school seniors and juniors.

The selection process also included conferences with the student, the director of the project, the mobility specialist, with the student's parents, his teacher, and responsible school administrators. The conferences were planned to give information about the program and to aid in assessing the suitability of the student for the proposed training.

The parents of each case served were asked to sign a consent statement to give the student instruction off the school grounds during school hours, if necessary, and asked to give their approval for the youths to be transported to the training site by the orientation mobility instructor.

The schedule was built upon a case load of 5-6 students for each instructor, depending upon the travel time necessary in a given service. Each student received a daily lesson. Generally, the lessons fitted into the regular class period. Most frequently, physical education classes were utilized. When needed and when possible, special administrative arrangements were made to permit scheduling lessons for longer or shorter periods. Special instructional schedules were established during school vacation periods to allow training in areas less accessible during regular school days. Both the basic case load and the daily instructional schedule were determined upon the recommendations of the National Committee on Standards for Orientation and Mobility Services and such agencies involved in orientation and mobility training programs as Catholic Charities of Chicago, the Alameda Project in California, the Veterans Rehabilitation Center at

Hines, Illinois, and the university graduate training centers for mobility specialists at Boston and Western Michigan universities.

In addition, a schedule was instituted for graduating high school students to afford familiarization with the junior college or college campuses of their choice.

## Evaluation and Additional Training

The final aspect of the instructional plan involved careful lesson planning, evaluation, and follow-up. Individual lesson plans were plotted for each student. His activities and progress were reported on the Bi-Monthly Report. After satisfactorily completing the training program, the student was terminated. However, after one semester without training, the student was re-evaluated and given any follow-up work needed to sharpen his techniques and to maintain his skills at a highly functional level. Training was deferred for some students who for emotional, maturational, or physical reasons reached a plateau. These students were re-evaluated at a later time and frequently were able to complete the program. A complete Final Evaluation was filed on each student by his mobility instructor. (See Appendix A)

## Units of Instruction

Orientation and mobility training has been recognized as an essential area in the education of blind persons, yet it has remained one of the most loosely organized areas of the instructional program. Many have questioned the need for a systematic and sequentially outlined program for teaching an independent mode of foot travel. Often those assuming responsibility for education and training considered travel such an ordinary habit it was conjectured that information and skill would be gained simply from mutual contact and help from others who had more experience. However, thoughtful consideration certainly indicates that specific skills, whether those involved in reading or mathematics or independent travel, are acquired only as a result of carefully planned increments of appropriate experiences and understandings. Throughout the entire project, the staff focused upon defining and refining these increments of a sound orientation and mobility training program.

In developing the sequence of teaching units, the staff was aware of the complex and highly individual nature of the instruction required in this discipline. The variations in students and the environments to be encountered dictated that the units be seen as guide lines rather than as a set or fixed program to be implemented in specific and common detail for each student. Flexibility was encouraged and expected in their presentation.

The units or general homework of the instruction were based upon the program of training developed at the Veterans Administration Hospital, Hines, Illinois. However, each unit was elaborated into sections or lessons incorporating many details appropriate for secondary youth. An optional unit (No. III) was designed to provide an understanding of the residential environment that could be used before training in residential travel if it was found that the trainee did not understand the nature of such environments. The objectives of the model and an outline of the units are presented in Appendix B.

Each unit was formulated as a guide for teaching and included suggested means of applying the techniques learned. Refinements were made to adapt appropriate components of the units to meet the special features and conditions within a school environment. Also, the unique needs of the adolescent dictated some adaptations of methods of presentation.

It is central to an effective instructional program to provide meaningful experiences that develop concepts and understanding about space and the physical features of the environment. Unit III, which deals with concepts relating to residential environments, was developed by the staff during the summer of 1967 and field tested during the final year of the project. It represented an innovative aspect of the project and added new dimensions to the traditional teaching units. Three areas of pertinent, concrete experience were developed in the unit: (1) around the block travel, (2) the relationship of the conventional residential block to the extended residential grid, and (3) intersections. In each section, the physical features encountered and spatial understandings needed were included.

This unit was developed in considerable detail. The format and sequence followed common learning theories and presumed a wide variance in client sophistication, ranging from a very limited background to a high level of experience. It was assumed that a professional worker would select those increments of the unit that would be most suitable to the specific situation and student.

The mobility specialists working on this project, as well as students in the Orientation and Mobility Graduate Training Program at California State College at Los Angeles, used the new unit and reported favorably about its usefulness. They also noted that students who were presented with Optional Unit III seemed to progress more easily in Unit IV, Residential Travel.

## Teacher and Parent Involvement

If an orientation and mobility training program is to be successful, parents, teachers, and other key school personnel need to assume an active role of support and reinforcement. Certainly, all concerned persons should share at some level in the following:

1. Knowledge of the purposes of orientation and mobility training.

2. Awareness of the importance of orientation and mobility to the blind person's optimal achievement of self-realization.

3. Familiarity with the kinds of skills to be learned.

4. Cognizance of the psychological dynamics involved in meeting the demands of independent travel.

5. Attention to giving reinforcement and encouragement of the student's motivation to accomplish the program.

6. Provision of experiences that may enhance necessary understandings of the environment.

7. Realistic expectancies of performance that will generate practice and ultimate functional use of the skills mastered.

The staff attempted to devise procedures that would serve to present and clarify these areas of responsibility. Particular emphasis was placed upon defining and exploring the role of parents and teachers in supplementing the services of the orientation and mobility specialist. The plan fell into the following general categories:

1. Conferences on a periodic basis with those concerned.

2. Planned observations of the student and orientation and mobility specialist at work, followed by interpretation and evaluation by the specialist.

3. Group parent education meetings aimed at explaining the program.

4. Teacher education through college courses in beginning and advanced basic orientation and mobility skills.

Working with the parents was an essential and valuable phase of the total program. Before instruction was initiated, a conference with both the student and his parents was held in the home. In addition to describing the program, interests and aspirations as well as concerns were explored that provided invaluable insights for the specialist as aids in planning the student's program. A written approval or release form was negotiated at this first meeting. Subsequent conferences provided a basis for enlisting parent cooperation in working on any specific problem, and for opportunities to resolve parental concerns and to evaluate student progress.

The observations of students at work aided in familiarizing the parent with the techniques and challenges of orientation and mobility training. It was further a most fruitful basis for evaluation of both needs and progress of the student. Possibly its central value was that it tended to build confidence in the efficiency and safety of the travel mode.

Five in-service meetings were held for interested parents of blind children in the Los Angeles County area. The San Gabriel Valley area, which was one of the major service regions for the project, was selected as a pilot or model for group parent education. This area of the County meets the educational needs of blind youth through two cooperative programs, one in the Temple City Unified School District, and the other in the Azusa Unified School District. Approximately 20 school districts are served by these programs. An average of twenty-three parents, seven teachers, and two administrators attended each meeting.

The meetings were conducted by the mobility staff with Mr. Lawrence Blaha, Principal Investigator, assuming their direction. The first session gave an over-view of the purposes of the Demonstration Project and general definition of orientation and mobility. A guest speaker, Mr. Peter Link, Regional Coordinator of Services for the Blind, State of California Department of Rehabilitation, discussed the services of his department. The staff also demonstrated some basic skills such as the correct use of the sighted guide. Parents were given a concise list defining the basic terms utilized in orientation and mobility training. They also were provided the experience of performing basic skills working under the blindfold.

The second meeting presented Mr. Robert Whitstock, Field Representative and Administrative Assistant of the Seeing Eye, Inc., Morristown, New Jersey. He not only explained the Seeing Eye Program, but discussed the importance of mobility and the compatibility of the two modes of independent travel, i.e., with the guide dog and with the long cane.

The subsequent meetings provided further practice in basic skills and discussion of effective ways in which the parents could reinforce these skills for their children. To broaden understanding of the field of orientation and mobility, the film "Long Cane" was shown and evaluated. The final meeting provided reaction or evaluative discussion. There were many favorable reactions. For example, one couple stated that shopping with their daughter, a secondary school student, had proved to be fatiguing and frustrating, and further trips were discontinued. Following the session on the Use of the Sighted Guide Technique, another shopping trip was tried. To the parents' delight, problems of doorways, congested areas, etc. , were handled easily and comfortably, and the experience was most enjoyable. The experience of the staff resulted in a judgment that such parent programs were of utmost value.

Teacher participation was characterized by a high level of interest and cooperation. A similar schedule of conferences and observations was followed, affording invaluable information and help to the orientation and mobility specialist.

The focus of in-service education for teachers was to help them become knowledgeable about the field of orientation and mobility, and become familiar with the basic or pre-cane skills. Two courses were developed and offered yearly for this purpose. The first one, Education 430, was an introductory course; the second, Education 447, was an advanced course involving some experience in teaching a blind student one of the basic orientation skills. It should be noted that, although the presentation of the skills was done by placing the teacher under a blindfold, the actual use of the cane was not involved. The acquisition of cane techniques is universally seen as the function of the fully trained specialists, and this role was clearly defined for the participating teachers.

All teachers who took a course in orientation mobility were asked to respond to a survey relating to their success in applying the training in their classrooms. All teachers had at least a year of time to use the training in their classrooms. The teachers were very frank in evaluating their efforts, and they reported many practical problems. The results of the survey are summarized in detail in a later section.

## Summary

The instructional procedures developed and implemented for this project centered upon three major areas: a plan for handling organizational aspects of the program, a sequence of teaching units, and methods for informing and involving key persons in the life of the student participants. The results of data recorded by the forms and evaluative instruments of the project are reported in a subsequent area of this report.

The dedicated and continuing efforts of the staff to refine and to implement these procedures effectively were spurred by the realization that a program of orientation and mobility training represents an important area in the life of the blind individual. It is an area in which the whole person is involved. The demands upon his physical, mental, and emotional make-up are tremendous. Every error that is made can be painful, and gross negligence could be fatal. Yet, the benefits derived from the proper assimilation and execution of the skills involved are immeasurable. Not only do they raise his self-concept, but they help to break some of the chains that prevent him from identifying with his sighted peers. They also help him to become independent and capable of assuming a satisfying and useful role in life.

# PROGRESS REPORT OF DEMONSTRATION PROJECT

## Cases and Instruction

The original plan called for three mobility specialists to work on the project. However, because of an insufficient number of trained personnel, only two specialists worked at any one time. Representative geographic areas in the County were served in order to carry the demonstration into as many districts as possible. The district of residence for cases served are reported in Appendix D. The areas receiving the major attention, also identified in Figure 1, included:

1. San Gabriel Valley, including Long Beach.
2. Los Angeles City Schools.
3. The Bay area: Santa Monica, Torrance, and Manhattan Beach.

Fifty-one cases received intensive training, and four received short-term training to assist them in handling new situations or because the case presented some interesting problems to the principal investigator. Since the latter group of cases really do not represent the central challenge of the project, they will receive only incidental treatment in this report. Basic data on all cases receiving training are shown in Table I.

The 51 cases that received the intensive training were carried to a point where their existing travel needs were satisfied before interrupting the training. The specialist remained in contact with each case after the initial period of training was stopped, and when a need arose for additional assistance, the specialist returned to the case and gave as much instruction as his schedule would permit.

When possible, the pre-cane techniques were taught by the classroom teacher. These techniques form the basis for the instruction in Unit I as outlined in the model. It was necessary in many cases for the specialist to give this instruction or to supplement the work of the teacher. If the trainee was enrolled in high school, instruction usually was given in a classroom period of 50 minutes.

All instruction was individual, and the specialist usually carried a case load of five trainees. Additional duties of the specialist included conferences with the parents, the teacher, and usually with the principal. School vacation periods were used to provide instruction that required a different setting or, in some cases, required more time than was provided in a school period. Evening instruction was employed when it was necessary to involve the parents. The guidelines employed throughout the training may be summarized as follows:

1. Provide individual instruction in accordance with the needs of the case.

2. Acquaint the school and the home with the training program.

3. Carry the case at least to a point where immediate needs are satisfied, then defer or terminate training at this point.

4. Follow the case and, when need arises, give special assistance.

As the training program progressed, each specialist filed a bimonthly report on each case (See Appendix A). This report included a record of periods of instruction, a rating of the knowledge and application of techniques, trainee's motivation, a record of teacher and parent observations and conferences, and special problems noted. Data from these trainees are summarized in Table II.

It will be noted that there is a great range of periods of instruction given the trainee on each unit and the total periods. This range is a clear reflection of previous training, aptitude, motivation, etc. One cannot draw helpful generalizations from the averages as shown in Table II. These averages reflect the many differences found among cases and, in part, also the differences in judgment of specialists as to when a unit had been completed satisfactorily.

It is important to note that the average periods of instruction for the 51 cases was 108. The Alameda County project that was described earlier, reported an average of 107. It appears, then, that the average adolescent requires about 100 periods of instruction to satisfy his needs.

## TABLE I

## DATA ON CASES RECEIVING TRAINING

| Case No. | Sex | Age | Grade | Vision | Previous Training | District + | Hours Instructed |
|---|---|---|---|---|---|---|---|
| Cases Receiving Intensive Training | | | | | | | |
| 1 | F | 21 | 12 | L.P. | 6 wks. | Alh | 79 |
| 2 | F | 15 | 9 | none | 2 wks. | SoBU | 161 |
| 3 | M | 17 | 9 | none | 8 wks. | LA | --- |
| 4 | M | 14 | 9 | L.P. | none | WCov | 104 |
| 5 | M | 16 | 10 | none | none | CenV | 137 |
| 6 | M | 16 | 10 | none | none | ElM | 65 |
| 7 | M | 16 | 11 | none | 8 wks. | LA | 80 |
| 8 | M | 14 | 9 | L.P. | none | Arc | 90 |
| 9 | M | 16 | 11 | none | 2 mos. | TC | 77 |
| 10 | M | 15 | 9 | L.P. | none | Glen | 59 |
| 11 | F | 17 | 12 | none | none | LA | 123 |
| 12 | F | 15 | 10 | L.P. | none | Cov | 136 |
| 13 | F | 15 | 9 | L.P. | none | Arc | 28 |
| 14 | M | 15 | 10 | x L.P. | none | TorUn | 99 |
| 15 | F | 14 | 9 | none | none | Alh | 75 |
| 16 | M | 17 | 11 | L.P. | 10 wks. | LA | 107 |
| 17 | M | 14 | 9 | none | none | AZ | 152 |
| 18 | F | 17 | 12 | x L.P. | 5 wks. | LB | 87 |
| 19 | F | 15 | 10 | none | 3 mos. | Alh | 45 |
| 20 | F | 18 | 12 | none | none | LA | 54 |
| 21 | F | 17 | 12 | L.P. | none | CenV | 121 |
| 22 | M | 14 | 9 | L.P. | none | WCov | 112 |
| 23 | M | 16 | 10 | Per.V | none | Excl | 23 |
| 24 | M | 17 | 11 | x L.P. | 5 hrs. | SoBU | 262 |
| 25 | M | 17 | 11 | x L.P. | none | SoBU | 197 |
| 26 | M | 16 | 11 | none | 18 mos. | LA | 195 |
| 27 | M | 20 | 14 | none | xx | LB | 85 |
| 28 | F | 16 | 10 | none | none | Bald | 53 |
| 29 | M | 13 | 8 | none | none | LA | 66 |
| 30 | F | 16 | 10 | L.P. | 6 hrs. | Monrv | 46 |
| 31 | F | 14 | 9 | none | none | TC | 75 |
| 32 | F | 16 | 10 | none | none | Du | 60 |
| 33 | M | 16 | 10 | L.P. | none | SanM | 148 |
| 34 | F | 15 | 10 | L.P. | none | TC | 83 |
| 35 | M | 18 | 12 | none | some | LB | 116 |

+ See Appendix D for names of the districts

x In one eye

xx Albany Center

TABLE I (cont'd)

DATA ON CASES RECEIVING TRAINING

| Case No. | Sex | Age | Grade | Vision | Previous Training | District | Hours Instructed |
|---|---|---|---|---|---|---|---|
| 36 | M | 15 | 10 | x L.P. | none | Bur | 60 |
| 37 | F | 14 | 9 | L.P. | none | TC | 75 |
| 38 | F | 14 | 9 | L.P. | none | TC | 77 |
| 39 | F | 18 | 11 | L.P. | 6 mos. | Excl | 59 |
| 40 | F | 15 | 10 | none | none | LB | 83 |
| 41 | F | 17 | 12 | L.P. | none | LB | 83 |
| 42 | F | 15 | 11 | L.P. | none | TorUn | 66 |
| 43 | M | 17 | 11 | none | 25 hrs. | WhitU | 71 |
| 44 | F | 15 | 8 | L.P. | none | Elm | 93 |
| 45 | M | 21 | - | L.P. | little | LaP | 89 |
| 46 | F | 14 | 9 | L.P. | none | Elm | 61 |
| 47 | F | 14 | 9 | L.P. | none | Elm | 77 |
| 48 | M | 15 | 10 | L.P. | none | TorUn | 184 |
| 49 | M | 15 | 9 | none | none | Cov | 111 |
| 50 | M | 19 | 10 | none | 4 mos. | WhitU | 96 |
| 51 | F | 18 | 12 | none | some | LA | 124 |
| xxx Special Assistance Cases--Short Term | | | | | | | |
| 52 | F | 14 | 10 | LgFms | none | Dow | 9 |
| 53 | M | 16 | 10 | none | none | Bur | 3 |
| 54 | M | 42 | 18 | L.P. | some | LA | 25 |
| 55 | F | 18 | 12 | L.P. | some | LA | 32 |

xxx These four trainees are not considered as a part of the major project since in each case they requested assistance from the staff to meet a special need. No additional information relating to these cases is incorporated in the report.

## TABLE II

## SUMMARY OF PERIODS OF INSTRUCTION AND NUMBER OF CONFERENCES AND OBSERVATIONS

| Case No. | Periods Per Unit | | | | | | | Conferences | | Observations | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | I | II | III | IV | V | VI | Total | Parent | Teacher | Parent | Teacher |
| 1 | - | 8 | - | 71 | - | - | 79 | 7 | 1 | 2 | 2 |
| 2 | 8 | 49 | - | 104 | - | 7 | 168 | - | 1 | 1 | 3 |
| 3 | 9 | 39 | - | 38 | - | 5 | 91 | - | - | - | - |
| 4 | 25 | 13 | - | 65 | 29 | - | 122 | 1 | 5 | - | 2 |
| 5 | 19 | 25 | - | 93 | - | - | 137 | 2 | - | - | 1 |
| 6 | 3 | 19 | - | 58 | - | - | 80 | 3 | 5 | 1 | 2 |
| 7 | 8 | 104 | - | 18 | - | 39 | 169 | 3 | 5 | 1 | 2 |
| 8 | - | - | - | 47 | 38 | - | 87 | 2 | 7 | 1 | 2 |
| 9 | - | - | - | 42 | 35 | - | 77 | 5 | 1 | 4 | 2 |
| 10 | 11 | 5 | - | 42 | 10 | - | 68 | 2 | 7 | 2 | - |
| 11 | 9 | 91 | - | 9 | - | 14 | 123 | - | - | - | - |
| 12 | 10 | 43 | - | 83 | - | - | 136 | 2 | 3 | 1 | 1 |
| 13 | 10 | 8 | - | 10 | - | - | 28 | - | - | - | - |
| 14 | 8 | 10 | - | 34 | 86 | 30 | 168 | 2 | 4 | 1 | 4 |
| 15 | 12 | 10 | - | 48 | 18 | - | 88 | 4 | 7 | 3 | - |
| 16 | 12 | 10 | - | 55 | 20 | - | 97 | 4 | 6 | 1 | 1 |
| 17 | 20 | 33 | - | 86 | - | - | 139 | 9 | 7 | 6 | 3 |
| 18 | 6 | 9 | - | 67 | - | 60 | 182 | - | - | 3 | - |
| 19 | - | 51 | - | - | 45 | - | 96 | 5 | - | 5 | 1 |
| 20 | 13 | 9 | - | 60 | - | - | 82 | - | 2 | - | - |

## TABLE II (Cont.)

| Case No. | Periods Per Unit |  |  |  |  |  |  | Conferences |  | Observations |  |
|---|---|---|---|---|---|---|---|---|---|---|---|
|  | I | II | III | IV | V | VI | Total | Parent | Teacher | Parent | Teacher |
| 21 | 6 | 11 | - | 52 | 57 | 37 | 163 | - | 1 | 2 | 1 |
| 22 | 25 | 15 | - | 53 | 34 | - | 127 | 1 | 5 | - | 3 |
| 23 | - | - | - | - | - | 23 | 23 | 3 | 2 | 1 | - |
| 24 | 11 | 66 | - | 116 | - | 69 | 262 | 2 | 2 | 2 | 2 |
| 25 | 3 | 10 | - | 40 | 100 | 44 | 197 | 1 | - | 1 | - |
| 26 | - | - | - | 149 | - | - | 149 | 6 | 3 | 3 | 2 |
| 27 | - | - | - | - | - | 85 | 85 | 2 | - | - | - |
| 28 | 11 | 10 | - | 52 | - | - | 73 | - | - | - | 2 |
| 29 | 8 | 11 | - | 47 | - | - | 66 | - | - | - | - |
| 30 | 6 | 5 | - | 48 | - | - | 59 | 4 | 8 | - | - |
| 31 | 11 | 16 | - | 48 | - | - | 75 | - | - | - | 1 |
| 32 | 5 | 14 | - | 61 | - | - | 80 | 4 | 1 | 3 | - |
| 33 | 1 | 17 | - | 84 | 68 | 19 | 189 | 2 | 4 | - | 1 |
| 34 | 13 | 23 | - | 44 | 10 | - | 90 | 1 | 3 | 1 | 3 |
| 35 | 5 | 5 | - | 80 | 18 | - | 108 | - | - | - | - |
| 36 | 5 | 6 | - | 45 | - | 4 | 60 | - | - | - | - |
| 37 | 55 | 10 | - | 10 | - | - | 75 | 2 | 3 | - | 2 |
| 38 | 21 | 26 | 30 | - | - | - | 77 | 4 | 3 | 4 | 1 |
| 39 | 8 | - | - | 51 | - | - | 59 | 1 | - | - | 3 |
| 40 | - | 38 | - | 45 | - | - | 83 | 1 | 2 | - | - |

## TABLE II (Cont.)

| Case No. | Periods Per Unit | | | | | | | Conferences | | Observations | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | I | II | III | LV | V | VI | Total | Parent | Teacher | Parent | Teacher |
| 41 | 8 | 10 | - | 80 | - | - | 98 | 1 | - | 2 | - |
| 42 | 21 | 15 | 30 | 115 | 1 | 3 | 185 | 2 | - | 2 | 2 |
| 43 | 10 | 10 | - | 70 | - | - | 90 | 4 | 2 | - | 2 |
| 44 | 5 | 5 | - | 48 | 41 | - | 99 | 4 | 6 | 4 | 2 |
| 45 | 12 | 25 | - | 31 | 21 | - | 89 | 5 | 2 | 4 | - |
| 46 | 25 | 15 | - | 35 | - | - | 75 | 1 | - | - | 1 |
| 47 | 3 | - | - | - | 78 | - | 81 | 4 | 3 | 3 | - |
| 48 | 20 | 62 | - | 36 | 66 | - | 184 | - | 1 | 2 | 1 |
| 49 | 25 | 13 | - | 36 | 51 | - | 125 | 1 | 4 | - | 3 |
| 50 | 10 | 10 | - | 76 | - | - | 96 | 3 | 12 | - | 2 |
| 51 | 12 | 10 | - | 55 | 25 | - | 102 | 1 | - | 3 | - |
| Number | 43 | 44 | 2 | 46 | 21 | 14 | 51 | | | | |
| Range | 1-55 | 5-104 | | 9-149 | 1-100 | 3-85 | 23-262 | | | | |
| Average | 12.28 | 22.60 | | 57.33 | 40.52 | 31.36 | 108.65 | | | | |

## Case Progress Reports

Since all training was individual and since achievement and other factors vary with each case, the results of the project will be reported principally as brief case histories, which have been given fictional names. Background data on each case are supplied, and a brief summary of achievement is given.

The cases that received intensive training are arranged in two groups in the presentation which follows.

Group I - Intensive Training and Independent Follow-Up. This group consists of cases that were included in the independent follow-up. The 19 cases in this group were chosen at random from the 51 cases. The interview sheets used for the follow-up with both the parents and the youth are reproduced in Appendix C. Interpretation of the results of the follow-up are discussed in some detail later in this section. The general intent of the follow-up by an independent investigator was to ascertain the attitudes of the client and his parents toward the instruction and to obtain a judgment relative to the applications the client is making of his training.

The teacher's evaluation is included when appropriate. Evaluations by resource teachers were not available for some cases such as college students, students not in school when the program was completed, and students enrolled in high schools that did not have resource programs. Also, because of staff changes as well as lapse of time, final reports were not available on some cases that entered the program two years ago.

Group II - Intensive Training Without Independent Follow-Up This group of 32 cases was given intensive treatment but was not included in the independent follow-up. A summary of the specialist's final evaluation and an evaluation by the teacher for the high school cases is given. However, in a few cases evaluations were not available for secondary school cases. Teacher evaluations are naturally omitted for college students since they are not enrolled in a special program.

Group III - Short Term--Special Service Cases This group included four cases that requested service and were given short term training in relation to specific needs. Information on these cases is not included in the report.

# GROUP I

# INTENSIVE TRAINING AND INDEPENDENT FOLLOW-UP

DONNA #1
21 years, 12th grade,
Detached Retina - 14 years, Light perception,
79 periods of instruction.

Before being admitted to the program, she had no orientation and mobility training by a specialist, but had received some training from a physical education teacher at the state school. Although she used a sighted guide for travel in unknown areas, she traveled independently around her school campus which she knew well. Her attitude toward training was good, her motivation high. Her mother was apprehensive about letting her travel independently, her father more positive. Her physical coordination was outstanding. She has a good posture and an excellent gait, and has had swimming and dancing lessons. She can now travel independently in her home, in the downtown areas of the small town where she lives, and on her college campus. Further training in bus travel is recommended.

Teacher's Evaluation: Donna felt the need for effective mobility and was a student with a purpose. She is naturally retiring, but with the mobility training she received, she was able to "master" successfully the junior college campus where she has been a student for two years.

Independent Follow-Up: Donna is now attending a local college, and does quite well academically. Her mobility instructor stated that she is a very good student, and possesses the potential for becoming a good independent traveler. She learned to travel in light business districts, but did not receive bus travel training. Although Donna is now 23, her mother displays some rather pronounced fears about her daughter's traveling alone. As a result, Donna's travel has been somewhat limited to her residential area and to the college campus. She does some bus travel, and expressed a desire for formal training. Although she has found some increased independence from using the cane, she is embarrassed by what she considers to be a symbol of blindness.

***

JOYCE #2
15 years, 9th grade,
Congenital cataracts, No vision,
168 periods of instruction.

She has had some previous training under an unqualified instructor, and has depended upon a sighted guide to travel. Her attitude during training was good. She is sheltered by her parents. Her father recognizes very little independency or ability in her, and does not encourage it. However, he would allow her the freedom of independent travel in her home area if she exerted herself.

JOYCE (cont.)

She has the ability, potential, and expressed desire to be independent, but also exhibits insecurity. After training, she can travel independently from her home to school and to businesses in the home area, but she does not take advantage of the opportunities presented. She does travel independently on the school grounds with the use of a cane.

Teacher's Evaluation: This student is very insecure, often needing lots of reassurance. The orientation and mobility training has helped her achieve independence in movement around our campus which, in turn, has helped her develop a feeling of achievement. She moves very well around the campus and has begun to work in her neighborhood environment as well; however, because of a series of illnesses her training has been irregular since the middle of February. I feel that the training she received has really helped her mature socially and has given her a sense of security not evident in the past. It is not likely that any other means would have been so successful. This student does use her cane to go to and from her church, which is about 10 blocks from her house.

Independent Follow-Up: Joyce, according to her instructor, is a high school student who lacks confidence in her ability to travel. Her parents are quite anxious about her going too far away from home by herself. She feels that she still cannot get around the neighborhood very well, and fears street crossing with signals. However, she can now get around her school campus with little difficulty--a skill she did not have before her orientation and mobility training. She readily admits need for more training, but seems unmotivated to try new situations. Orientation and mobility training gave her a better understanding of her community and enabled her to get around on the school campus without sighted help. She expressed a desire for training in bus travel. Eventually she would like to get a guide dog because she doesn't feel safe with the cane.

***

LLOYD #7
16 years, 11th grade,
R.L.F., No vision
169 periods of instruction.

Before training with this program, Lloyd had 16 hours of mobility training at a local institute. He used a cane and traveled to most of his high school classes. He readily accepted assistance from sighted friends. During training, he cooperated, and expressed interest and desire to be independently mobile. He was, however, seemingly contented to remain in his sheltered environment, and satisfied with his limited abilities. He had no neighborhood contact, or any interest to travel in the area. He was verbal and intelligent academically, but lacked performance capabilities or application. A medical examination confirmed a noticeable lack of coordination, balance, and body

LLOYD (cont.)

manipulation. While he is now capable of extensive independent travel on campus, he still readily accepts assistance for the personal contact.

Teacher's Evaluation: After mobility training, Lloyd was able to go to all of his classes at high school and junior college. He enjoys traveling with sighted guides and still uses this method. He doesn't seem motivated to want to go alone, although he knows that he can if it becomes necessary, and this gives him satisfaction.

Independent Follow-Up: Lloyd indicated that he would really like to be doing much more traveling than he is able to do. His mother appears to be somewhat protective. He can now travel in "light" residential areas and on the junior college campus. His orientation and mobility instructor indicated that there is little motivation or interest to travel independently beyond the college campus. He readily accepts sighted help and is reluctant to release it. He stated also that he still has trouble "picturing" the community. He said, "I still have no idea of what a whole block or a freeway is." Despite his 169 hours of instruction, Lloyd continues to be a marginal traveler.

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ALAN #8
14 years, 9th grade,
R.L.F., Light perception,
87 periods of instruction.

This boy showed reluctance in using the cane throughout training, but a willingness to use a sighted guide if one were available. His attitude was good throughout training and he progressed to business travel. He goes downtown to a nearby shopping area. While he uses the cane fairly efficiently, he still enjoys the comfort of a sighted guide.

Teacher's Evaluation: Alan "took to" the cane readily and seemed to enjoy it. His use of the cane was so natural as he "worked" the business area that many favorable comments were made about it by the towns people. He will use the cane to go where he could not otherwise go.

Independent Follow-Up: Alan is a very adequate high school student who has many varied interests. He raises bantam chickens, ducks, and king snakes. At present, he travels several blocks to the pet store for animal food. He feels that orientation and mobility training freed him from having to rely on sighted help when he wants to go some place. He stated that training also has helped him travel more efficiently on the high school campus. He has not had bus travel in a metropolitan business area. He uses the sighted guide

ALAN (cont.)

technique regularly when he is out with friends or members of his own family. He likes dogs, and said he may get a guide dog. He lives in an area which, he says, "has few places to go." It appears that his geographic isolation limits his chances to move out actively into the community.

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DAN #9
15 years, 9th grade,
R.L.F., No vision,
77 periods of instruction.

Before training, Dan's travel was quite limited. However, he had a remarkable sense of orientation. It was impossible to lose this boy when he was tested with the most complicated geometric-grid patterns of travel. His parents greatly assisted in reinforcement by encouraging his use of the cane after school hours. Consequently, by the middle of his training he was able to travel to and from his home and school. He also expressed great pride in being able to go to the barber shop, dry cleaners, and to the stores in his home town without depending upon his parents or sighted friends to guide him. He feels quite confident that, relying upon cane travel, he also will be able to operate independently when necessary while attending college in the future.

Teacher's Evaluation: Dan now has a tool at his finger tips. He will use the cane to uphold his independence when sighted peers are not going his way. He is an able traveler who is mentally alert.

Independent Follow-Up: Dan is a young man who has shown great achievement in his orientation and mobility training and also in his studies. He is able to travel in both residential and business areas. He can also travel safely and efficiently by bus. He now lives on the campus of a local college and is majoring in physics. Although he received all of the basic and advanced instruction, he probably will make minimal use of the cane in traveling because of his many sighted friends. He reported that he once traveled across the campus without his cane and fell into a recent excavation. His parents have always given him positive support. He stated that orientation and mobility training greatly increased his independence and made him acquainted with two nearby small business areas. Dan is very competent intellectually, and sees the field of orientation and mobility as a system or general aid to be used selectively. He is able to intellectualize the "science" and enjoys the field as a body of knowledge in somewhat the same way that he appreciates certain aspects of his major, physics.

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GAIL #11
17 years, 12th grade,
F.L.F., No vision,
123 periods of instruction.

Gail had her first lessons in mobility in Santa Monica prior to this program. She carried a cane but used it seldom because she relied upon sighted friends while on the school grounds. Her parents restricted her freedom of travel to "safe" environments. Her attitude during training was excellent. Before graduating from high school she was traveling independently to all of her classes and to other objectives on the school grounds. She had little difficulty transferring her independent travel ability to a college campus. She completed mobility training at the State Orientation Center, and now travels in her home area and takes the bus to college.

Teacher's Evaluation: Gail feels delighted about being able to travel alone. Until she received mobility training in her Senior year, she had been "dragged" around the high school. She now has a "new lease" on life, and has been able to convince her over-protective parents that they should let her go to the local city college and to other places on her own. She meets friends and travels after school. For six months she was completely on her own at the Orientation Center in Albany.

Independent Follow-Up: Gail is attending a local college as a Sophomore. She lives with her parents in an upper-middle-class neighborhood. She is functioning quite well academically, and hopes to go away to college next fall. She is now able to travel in the local residential area and by bus to downtown business areas. Getting around her college presents no problem to her. The training has made her more independent by freeing her from reliance upon a sighted guide. She uses the long cane at all times except when she is at home. She reported that the sighted guide was the only other technique she used regularly. The only problem mentioned by her was a fear of veering while crossing a busy, wide intersection governed by a signal. She has no interest at present in obtaining a guide dog and is happy with her cane.

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JANICE #15
14 years, 9th grade,
Glaucoma - at 8 years, No vision,
88 periods of instruction.

She had no training before entering our program. Janice resisted cane travel for over six weeks, and so dropping her was considered. After learning more about her own neighborhood through extensive work, she became highly motivated. She was thrilled with being able to visit friends and nearby places, independent of help.

JANICE (cont.)

Her enthusiasm for cane travel increased daily, and she made rapid progress through heavily trafficked business areas with major red light crossings. Encouraged by her mother to travel, Janice took a bus trip to visit her grandmother and encountered no difficulties.

Teacher's Evaluation: At first, Janice had a "disrespect" for the cane because it made her "look" blind, she said. After she was given specific training in her own home area, however, she realized that the cane made her independent. She uses it to travel to the stores in her home area, and she can go to her grandmother's home which is several blocks away to get help with her studies. She needs to be a bit more careful of details, but generally she is a good traveler.

Independent Follow-Up: She is a very dynamic girl with above average abilities. However, her orientation and mobility instructor indicated that she felt very insecure in her own abilities. She has rather low expectancies and seems to need much verbal reinforcement. Her mother and father give her strong support with her mobility. Her father said he would like to organize all of the local Lions Clubs to provide the funds for a strong orientation and mobility program such as has been provided by the Demonstration Project. Janice is continuing to use her orientation and mobility skills, and with practice probably will become more efficient and independent. She now uses her training to visit her sighted peers who live near her home. She can travel to her high school which is ten blocks from her home, is able to travel in both residential and light business areas, and can travel by public transportation.

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CRAIG #17
14 years, 9th grade,
Anopia - at birth, No vision,
139 periods of instruction.

This boy had limited comprehension of travel concepts and of how to remain oriented from the onset of his travel. Almost one complete semester was spent on conceptualization, especially on the cardinal points of the compass and the simple intersection of streets. Craig used to get lost on the high school campus and to become easily disoriented. But at the end of the first semester, he was able to master all of the cardinal points of the compass, and no longer got lost on the school grounds. He is quite immature, and is indifferent to cane travel. He has not used his cane outside of school areas, and has never ventured alone, even in front of his house. We feel that he does not realize at this time what cane travel can do for him, and that probably he will not realize it until he is faced with vocational problems after high school. We recommend a follow-up, if possible, to see what the travel needs are at a later time.

CRAIG (cont.)

Teacher's Evaluation: Craig's orientation and mobility training were never fully accepted by him. The few orientation techniques he retained from this training are used very rigidly. He could never see the value in learning to use the cane. When told to take it home for practice in his own neighborhood, he deliberately ignored it. If he were handed the cane just before boarding the bus, he would take it home, but then would leave it the entire time in his room. His parents appeared to be afraid of his using the cane in going around the block on his own and so did not encourage him.

Independent Follow-Up: Craig is a high school student who seems to have some problems in acquiring orientation and mobility skills. His mobility instructor states that from the beginning Craig has not shown any motivation or sense of adventure in learning orientation and mobility. Craig stated that he never used the cane to travel outside of the home, other than during a mobility lesson. His instructor also stated that Craig's cane techniques are so underdeveloped he could not travel in any area outside of his immediate residential one. The lack of sidewalks in the area where he lives creates a special problem for him. His mother has said she wants Craig to continue to develop his skills, and she believes the training improved his posture and his rate of walking. However, she can do little to motivate him. He has given no consideration to the problem of a guide dog. A re-evaluation of Craig should be made after he graduates from high school next year to see if some new interests might be capitalized upon to motivate additional training.

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SHIRLEY #18
17 years, 12th grade,
R.L.F., O.D. Light perception,
182 periods of instruction.

Shirley had some previous training at a local agency, but depended upon a sighted guide to travel, except on the school grounds. She was able to travel independently to all of her classes. Her attitude during training usually was good, but since she continues to use sighted friends and relatives she did not exert much effort or apply herself. Her parents allowed her considerable freedom, but she did not take advantage of it when it involved independent travel. After graduating from high school, she continued her mobility training at the California Orientation Center for the Blind. When she returned from the Center, the Project specialist observed her mobility within her community and reported that she had not improved noticeably. She travels independently to all of her classes on campus, but makes no attempt to travel in her home area.

SHIRLEY (cont.)

Independent Follow-Up: Shirley now attends a local college. Her orientation and mobility instructor indicated that she has progressed slowly throughout the training because she lacked confidence, seems to have a poor concept of residential areas, and has only limited ability to use travel landmarks and clues. She believes that the training helped her become more independent. Her instructor reported that she was discouraged about orientation and mobility training because of her failure to complete lessons successfully. Shirley feels that she can now usually cross signaled intersections that are not very busy. Her travel seems to be limited to residential areas and to the college campus. She indicates that she would like more orientation and mobility instruction, especially instruction in bus travel. She is uncertain about wanting a guide dog.

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BONNIE #19
15 years, 10th grade,
R.L.F., No vision,
96 periods of instruction.

She has had no previous cane travel, but readily demonstrated capabilities. Not only was she able to use good technique, but her superior handling of all unexpected situations proved that she had all the qualities desired in a near-perfect traveler. She has a good background in orientation terms and concepts because her parents explain all forms of geometric design in detail--a practice they began when Bonnie was a small child. At the termination of travel, Bonnie was able to handle all heavily traficked areas with difficult red light crossings. Her plans for future travel include campus, and vocational areas after placement.

Teacher's Evaluation: Bonnie has acquired the cane techniques which she will use to maintain her independence while away from the protective shelter of her home. She moves with poise, and knows the fundamentals well.

Independent Follow-Up: Bonnie said she felt that the orientation and mobility instruction had made her much more self-sufficient and independent. She is now able to travel safely and efficiently in residential and light business areas. Her orientation and mobility instructor stated that she was very cooperative and enjoyed the training but that she probably will use the cane minimally as long as she has sighted friends to guide her--especially at school. Her mother said she has taught Bonnie to be independent. Bonnie described her present most difficult route as being to a bank four blocks away from her home. It appears that she feels a limited need for travel skills at this time. She commented on the value of the training in giving her a better knowledge of her environment.

ALEX #24
17 years, 11th grade,
Bilateral microphtalmia - At birth, O.D. no sight; O.S.L.P.
262 periods of instruction

Prior to this Project, Alex had some extremely limited mobility training, and he depended upon a sighted guide to travel. Because he greatly lacks functional ability--coordination, dexterity, and concepts--any movement or action by him usually was directed by others. His attitude toward training was excellent, but at first he displayed little or no satisfaction toward his accomplishments. After training, he traveled independently to all of his classes and to other objectives on the school grounds. He also traveled independently to businesses and to other objectives in his home area. He graduated from high school before completing mobility training under this program. After he completed the training at the State Orientation Center, his independent travel extended to the Los Angeles area and involved the use of public transportation.

Teacher's Evaluation: Before Alex received long cane instruction it took many weeks for him to learn his way from place to place on our campus. As he learned to use the cane, it was like seeing a flower blossom. He learned his way around campus so well that he would rarely get lost. Learning to use the cane gave him a new sense of achievement since he had always had only marginal academic success. It delighted him to run an errand for me so that he could display his ability. His parents still hesitate to let him travel to places outside of his home, such as to the mail box several blocks away. Last summer he went up to the Albany Center where we understand he made real progress. The travel training has done more for this young man than for any of the others who have taken part in the Project.

Independent Follow-Up: He feels that the orientation and mobility training has greatly increased his freedom and independence. He now has more confidence in his own abilities. He is now able to function well in the areas of business travel and bus travel. His parents feel that he travels safely and efficiently. His high school teacher also stated that the training has greatly increased this boy's self-confidence. Before this training, his parents felt quite hesitant about letting Alex go away from the neighborhood. At present, he uses his training to travel to a private rehabilitation agency in Los Angeles. The trip requires two hours each way by bus. He feels very confident about his ability to go any place he likes, and he would not hesitate to go to "even strange places." He stated that now he can go to an unfamiliar area and know what information he will need to secure some sighted help to become oriented to the area.

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CLAUDIA #32
16 years, 10th grade,
Cancer - 19 months, No vision,
80 periods of instruction.

Claudia had no previous training in orientation and mobility. She traveled the school campus without aid, and used a sighted guide for other needs. Her knowledge of the school grounds was excellent. She was an above-average student, and enjoyed hobbies of swimming (including diving), horseback riding, and Spanish. Her physical condition was normal, her posture excellent, and her gait normal. Both she and her family had an enthusiastic attitude toward mobility training. All in all, she was a superior prospect for the program. Her diligence in constantly striving for improvement led her to make great progress. She learned to travel in her home area and to master major red light crossings. Claudia will enter college soon, and feels confident about being able to travel independently around the campus.

Teacher's Evaluation: She has a keen sense of travel. She looks well since she uses her cane effectively. This fall she will attend a local college, and seems confident that she will be able to get around independently.

Independent Follow-Up: Claudia succeeded very well in residential and light business travel. She feels that her orientation and mobility instruction has made her much more independent. However, she feels that there is a "blind stigma" attached to using the cane. Her travel is quite limited, and she states that the store which is six blocks away is the farthest she usually travels. She said that she can travel satisfactorily on the local high school campus without the cane. Her orientation and mobility instructor said that she had some trouble in learning the touch technique. She does not like dogs and does not plan to acquire a guide dog. Although she learned to use the cane for traveling in residential and business areas, she does not use all of her skills. One of the main reasons for this appears to be her notion that there is some "stigma" attached to the cane.

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STEVE #33
16 years, 10th grade,
R.L.F., O.D.L.P; O.S. 3/200,
189 periods of instruction

Steve had no previous training and was allowed to travel independently on the high school grounds only. Because he could use his residual vision this presented no difficulty. His attitude during training was excellent, and he was extremely motivated to travel independently outside of his home and school. Before he received training, his parents had restricted his independent travel but now they permitted him considerable freedom. He did not need the cane on the school grounds, but it did serve him beyond the school and home.

STEVE (cont.)

There was no reluctance to use the cane except on the school grounds. Now he travels extensively in the Los Angeles area, and is planning to commute to a college in the community.

Teacher's Evaluation: Steve was very excited over the opportunity for taking cane travel. Because he has some sight he thought he would be "passed over." He always had feared traveling alone because he couldn't see the stop lights. Mobility has made him 100% independent. He will travel anywhere with full confidence. This fall he will enter a local university and is convinced he will travel there without difficulty. He feels mobility training is an essential for "living" in this world.

Independent Follow-Up: He appears to be a very adequate, self-sufficient young man. In the fall, he will enter one of the local universities as a freshman. He prides himself upon his ability to travel well and upon the freedom and independence he has achieved. He stated that the year after he received orientation and mobility instruction his grade point average went up one point. He attributed his scholastic improvement in part to the increase in self-confidence the training had given to him. He now travels proficiently in residential and business areas. He states that he uses the long cane wherever he goes unless he is using a friend as a sighted guide. His mother said that Steve has always wanted to go where his sighted peers could go and to do the things they did. Steve also said that he felt his training gave him a better idea of his community. He now has a summer job, and walks 15 blocks through a residential area to get to work. He feels his present greatest obstacle is crossing an intersection where there is no signal. He expressed no interest in obtaining a guide dog.

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CORINNE #34
15 years, 10th grade,
R.L.F., Sees light and dark,
90 periods of instruction.

Corinne had no previous training in orientation and mobility. She is an above-average student whose hobbies are swimming and horseback riding. While she lived only a block and a half away from the local school bus stop, her mother accompanied her daily to see that she got on and off the bus safely. Within one month after training, Corinne was able to do this alone;and, after observing this, her mother no longer accompanied Corinne to the bus stop. She was enthusiastic about travel training. She responded well but tended to become tense when seeking a specific locale. At the end of the training period, she had made remarkable progress, and was able to take the bus to and from school. She also knew the downtown civic center and the shopping area of her home town. She expects to use cane travel while in college, but expressed an interest in getting a guide dog later.

CORINNE (cont.)

Teacher's Evaluation: Corinne really makes her cane "work" for her. She travels to and from school by bus, going to and from the stop on her own without qualms. She is independent.

Independent Follow-Up: Corinne stated that orientation and mobility training has helped her to become more independent. She said she no longer needs to rely upon sighted help. She now travels to the local store by herself, and uses the cane to walk to the school bus stop. Like most blind children, she tires of going to the store just to be going some place. Before receiving orientation and mobility training, Corinne was limited to being around the house,and on the school campus where she traveled with the aid of sighted help. Her parents indicated that they still worry a little about her traveling very far by herself. She said she would like to get a guide dog eventually since she likes animals. Her travel is limited, she feels, because of poor public transportation. Apparently she has developed skills that are somewhat beyond her current needs within her restricted environment.

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RODNEY #36
15 years, 10th grade,
R.L.F., O.D. light perception, O.S. No vision,
60 periods of instruction.

Rodney had no prior training, and he depended upon a sighted guide for traveling. During training his attitude was good, but was hindered by his parents' attitude. His parents were reluctant to allow the cane to be used or to allow training in the home area. He demonstrated ability and potential to travel independently. His independent travel is limited now to the campus and to certain objectives in his home area.

Independent Follow-Up: Rodney is a young man who had better than average success in attaining orientation and mobility skills. Both he and his parents have taken a positive attitude toward his training. He feels that his training has greatly increased his independence and freedom to travel wherever he wishes. He can take the bus to visit friends or can walk to a nearby shopping area. He is now attending a local university, and feels he has no difficulty in getting around the campus. As a result of the assistance provided him by the orientation instructor, he reported no trouble in using the cane. He frequently uses both trailing and the sighted guide techniques. The training in bus travel was especially helpful to him. He said he does not want the responsibility of having a guide dog.

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PAUL #44
15 years, 10th grade,
R.L.F., Light perception,
99 periods of instruction.

Paul was very reluctant to use the cane at first. We asked him to try our method for at least a month or two and then, if his attitude toward the cane was still negative, we would stop training. His parents were anxious for him to take cane travel. His mother said that it was embarrassing for both Paul and her when they went together to a barber shop, she waited for him to get his hair cut, and then she took him home. The barber shop was less than three blocks away. He also required a teacher to pick him up from one school so that he could attend a class at another school several blocks away. After several weeks, Paul was enthusiastic about cane travel, and he readily and easily absorbed the regular lesson plan. Within a few weeks he was able to travel in his neighborhood quite well, and was very proud about being able to go to the barber shop alone and to go unassisted to the other class at a different school.

Teacher's Evaluation: Paul made remarkable progress when one considers that initially he was opposed to the cane. He now has much poise as he uses his cane as though it were a part of his body. "They" move as a unit, and he is a liberated boy. Now that he is out of his initial home environment, he will use his knowledge even more. His mobility instructor is to be complimented for his accomplishments with Paul.

Independent Follow-Up: Paul is an example of a young man who had better than average achievement in the area of orientation and mobility. But, because of circumstances beyond his control, he is unable to use his training to any great extent. He was very motivated to learn the orientation and mobility skills, but now finds he has almost no place to go. He did not finish high school, and has not developed any worthwhile connections outside his home since leaving school. His home environment limits his ability to travel in two ways. First, it is an area with no sidewalks; secondly, it has very few places he desires to go. He takes frequent short walks just to get out of the house. He has a natural ability to travel. It seems that his natural aptitude for travel plus his better than average skills might be put to use if he could be guided into some vocational pursuit.

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STANLEY #45
21 years, R.L.F., L.P.,
89 periods of instruction.

Stanley was out of school when he was admitted to the program. Apparently, he had a poor academic record. He was recognized as having a good knowledge of auto mechanics and a good ear for tuning a

STANLEY (cont.)

car. He had some mobility instruction from a social worker before entering into this program. He was highly motivated during training and completed the work through business travel. Although his parents gave only limited support, Stanley's strong desire to travel resulted in his developing excellent skills.

Independent Follow-Up: He was a very high achiever in the area of orientation and mobility. Before beginning orientation and mobility instruction, Stanley had a few lessons in cane travel from his social worker. He was extremely motivated to learn all of the mobility techniques. He can now travel safely and efficiently in residential and business areas. He is traveling to a rehabilitation center one day a week via the Rapid Transit District bus. This is a journey of about 25 miles, and includes one transfer each way which requires walking about three blocks in downtown. The trip each way takes about two hours. He states there is no problem he can't handle. A guide dog does not appeal to him since he is so efficient with the cane. Stanley dropped out of school at the junior high level and, until he received orientation mobility, he spent most of his time around his home. He has received only minimum assistance in mobility from his parents. His excellent achievement in acquiring travel skills seems directly related to his motivation and curiosity about the world around him. No doubt he achieved success here that compensated for his lack of academic success.

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SIDNEY #50
19 years. 10th grade.
R.L.F., No vision,
96 periods of instruction.

This boy used to get lost in his own home-room, groping and searching about for his own desk. A great deal of time was spent on concepts, beginning in his home-room, relating the room to the building, and then building by building on the high school campus. Sidney's interest grew daily, and he looked forward to each lesson and saw the value of mastering spatial relationships that were involved. Within two months, he was able to go anywhere on campus and to return to his home-room. Sidney is a "C" student, and much patience and repetitions were needed. Once learned, however, he was able to retain most information and, although slow on recall, functioned quite well on campus. He may be a good candidate for a guide dog when it becomes necessary for him to travel in business areas.

Teacher's Evaluation: Sidney was aided greatly by training in orientation and mobility. His understanding of spatial relationships has improved. He no longer becomes lost on the campus.

SIDNEY (cont.)

Independent Follow-Up: Sidney completed high school last June. He is now employed full-time in a sheltered workshop. He appears to have limited self-confidence. He and his mother are quite aware that his level of development in orientation and mobility is still quite limited. He has had residential travel training, but seems not to be using the skills he has learned. He expressed a fear of not being able to tell which side of the street he is on, and of getting lost in parking lots. He does know the cardinal directions, but doesn't feel that this helps him very much. His present travel needs are taken care of by his parents, and he has little motivation to develop further travel skills.

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PAULINE #51
18 years, 12th grade,
R.L.F., No vision,
102 periods of instruction.

Pauline was confused at first about cardinal directions, and she had a very limited knowledge of street pattern, intersections, etc. The client, the teacher, and the parents cooperated during training. Pauline uses the cane while traveling on the college campus, and she travels independently even while using public transportation. To satisfy her present needs relating to campus travel, less emphasis was placed upon pre-cane techniques. Therefore, the case could use intensive review of such techniques.

Teacher's Evaluation: Pauline's posture, physical attitude, and perhaps her endurance, have improved with mobility instruction.

Independent Follow-Up: She feels that the orientation and mobility training has greatly increased her independence and freedom to travel. Pauline's mother stated that Pauline has always been interested in getting around and doing the things done by her sighted peers. Her mother is interested in the orientation and mobility training, but doesn't seem to understand it very well. At present, Pauline is able to travel safely and efficiently by bus and in downtown business areas. She said her only fear was a tendency to veer while crossing wide streets with traffic islands. Other techniques which she said she uses regularly are trailing, sighted guide, and forearm. The training also has helped her in traveling on her school campus. She enjoys traveling and goes quite a lot. She has just recently procured a guide dog because, she said, she was afraid of veering while crossing wide streets. She still feels that orientation and mobility training has helped her to be an efficient and safe traveler. However, she reported difficulty in getting a composite picture of an area or "putting things as a whole," as she expresses it.

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# GROUP II

# INTENSIVE TRAINING WITHOUT INDEPENDENT FOLLOW-UP

JEFFREY #3
17 years, 9th grade,
Bilateral Enucleation; 20 months - No vision,
91 perods of instruction.

Jeffrey had limited mobility instruction prior to training, and he depended upon a sighted guide to travel. He did travel independently to his classes and around his home block without the use of an aid. His attitude was excellent but skeptical during the earlier phases of training. His parents permitted considerable freedom, and he frequently took advantage of it. He was somewhat reluctant about using the cane on the school grounds. Training, however, made him realize the value of the cane, and he now uses it on and off the school grounds. He can and does travel independently from his home to businesses and to visit his friends in the home area. Sufficient time was not available for him to complete the advanced phases of mobility training.

Teacher's Evaluation: Jeffrey has been traveling for only a few months with the cane. However, he does manage to get to all of his classes alone, and seems to be learning the cane techniques quickly. He was always too independent and wanted to go everywhere without the use of a cane or a sighted guide. Now he admits the use he will have after mastering the techniques--a big victory!

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ANDREW #4
14 years, 9th grade,
R.L.F., Sees light and dark,
122 periods of instruction.

Andrew relied primarily on sighted guides and usually had a poor gait and carriage. He is a better than average student academically, and is a warm, out-going boy. Throughout training, he was very cooperative and he worked hard to gain independence. He practices independently what he has been taught, and always thinks out the solution to his travel problems. He progressed through Unit V--Business Travel--and was considered a high achiever.

Teacher's Evaluation: Because of the thorough training Andrew received on the high school campus, he is able to find his way around very satisfactorily. He has become lost occasionally but, by finding a clue, he has been able to establish his position and to return to the resource room. He has shown enthusiasm for cane travel, and took his cane home for practice. His attitude toward this type of travel is excellent.

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### PHILIP #5

16 years, 10th grade,
Bilateral Retinoblastoma O.U. - 10 months, No vision,
137 periods of instruction.

Philip had no previous training, and he depended upon a sighted guide to travel, except to his classes on the school grounds. His attitude during training fluctuated with his parents' emotional or psychological concerns. Philip's parents supported the training, but they neither encouraged nor discouraged independent travel. Though he verbalized a desire to be independently mobile, he preferred using friends. During training, he frequently demonstrated his proficiency and application of knowledge to travel independently, but seldom accepted it.

Teacher's Evaluation: For this student, mobility instruction was the beginning of his "growing up" and coming to terms with his handicap and the numerous hours he spent in dreaming and wishing he had sight. Outwardly, he gave evidence of being a student who would learn mobility at least reasonably well. But the actual coming to grips with the daily lessons revealed a boy who, in his own words, "never really thought I would travel independently." As the lessons progressed, it became clear that Philip's mind was not on what he was learning, and the instructor was forced to review constantly. The boy seemed to become more and more depressed, not so much about not learning travel, but about having to learn it. He said he simply did not want to travel "like a blind man." It was decided that he would not profit from further training at that time. The school psychologist was consulted and he suggested both individual and group counseling for Philip. Philip entered into counseling and much of his hostility was revealed. Many of Philip's teachers have noted his growth, and have remarked that his class participation was becoming more positive. From their point of view, his interaction with other students improved. It remains to be seen whether or not this growth will carry over to mobility instruction next year, but this does seem likely.

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### NORMAN #6

15 years, 9th grade,
R.L.F., No vision
80 periods of instruction.

Norman had no previous orientation and mobility training. It was reported that he never left his yard by himself. He traveled independently about the high school campus, and also used a sighted guide. His attitude toward mobility training was excellent; he was enthusiastic and eager to learn. When he completed training, Norman could cross streets and go to the barber shop and to nearby stores by himself. After some training he was able to choose alternate routes without previous exploration in a residential area. Further training is recommended to improve his technique and to further his knowledge of more complicated travel patterns.

NORMAN (cont.)

Teacher's Evaluation: Norman is a boy who must constantly be reminded and urged to help himself. Cane travel instruction is a welcome release from parental restriction. He needs to develop more poise even in familiar places. The instructor has done a fine job with this boy.

***

DAVID #10
15 years, 9th grade,
R.L.F., Sees light and dark,
68 periods of instruction.

David claimed to have useful travel vision, but relied mainly upon his utilization of light and dark perception. Prior to cane travel, several weeks were spent determining the extent and limitations of the use of such light and dark perception travel. Although a blindfold was used for half his training, it was not needed since he admitted he could not use light or dark perception on cloudy days, nor could he count fingers within one foot of him. He rapidly progressed through downtown areas of several fairly large cities above 30,000 population. He remained constantly oriented, improvising short cuts and choosing alternate return routes. He traveled rapidly and safely at all times, progressing much faster than the rate of instruction given. David is a superior traveler, one who will be able to apply his knowledge of travel in any environment, be it a small town or New York City.

Teacher's Evaluation: David had stated that he was learning to use the cane particularly for night travel when his vision is reduced. At no time did he indicate he would use it for daytime travel.

***

MARGARET #12
15 years, 10th grade,
R.L.F., Some light perception,
136 periods of instruction.

When Margaret entered training, she was fairly well acquainted with her high school campus but had only a limited knowledge of her neighborhood. She did not know cardinal direction. During training, she was reluctant to use the cane in her home environment. She became acquainted with her neighborhood and acquired the use of cardinal directions. Since only a few areas in her neighborhood interest her, she will be doing very limited travel.

MARGARET (cont.)

Teacher's Evaluation: Margaret encouraged a high school friend to use the cane by always pointing out how much larger his world would become if he could travel on his own. But when it came right down to using the cane for her own travel, the "blind" label became the stumbling block.

***

LOUISE #13
15 years, 9th grade,
R.L.F., Light perception,
28 periods of instruction.

Before coming into the program, Louise had no previous travel training. Her attitude toward mobility was excellent, her enthusiasm was high. Although her mother was apprehensive, the family's attitude was good. Initially she lacked orientation on the high school campus, and was confused about the use of right and left. By the end of the training period, which was terminated after only a few weeks because her family moved from the area, Louise could travel around one block safely and independently.

Teacher's Evaluation: Louise was a very, very immobile person, resisting every step of the way and yet wanting to be independent. Her mobility training was very helpful to her because she moved and had to become acquainted with a new area. She had received a firm foundation, and her parents called long distance to learn how she could obtain more training. The instructor's patience really paid off here!

***

GEORGE #14
15 years, 10th grade,
O.D.-Congential cataract-L.P.; O.S. anophthalmos,
168 periods of instruction.

George had no prior training in orientation and mobility. He traveled independently on the school grounds and in the neighborhood by using his residual vision, which was not always effective. He lacked knowledge of safe travel, and used hazardous practices on street crossings. He was strongly motivated to travel independently, and his attitude during training was excellent. His parents permitted him considerable freedom. He showed some reluctance about using the cane. He felt that his residual vision was adequate, but experience during training proved it was not. After training he uses the cane without reluctance, and travels extensively in the Los Angeles Area, making frequent use of public transportation.

GEORGE (cont.)

Teacher's Evaluation: For George, mobility instruction was a tremendous release of his abundant energy. When he found he could "get out and go," he really went to town with everything in him, dashing all over Los Angeles County every weekend, and traveled some streets in the early morning hours. "I have to make up for lost time," he said repeatedly. He became more confident of himself, and less hesitant about setting goals for himself. He felt he was a "real teenager," as he once expressed it. In the summer of 1967, after mobility training, he had a cataract operation and gained a small increase in vision. Actually, this created for him the problems of the marginally handicapped, partially sighted person; since George had always tended to look less blind than he really was, it affected his self-concept. At times he didn't know whether to be happy with the increase, or to feel sad that it had not increased as much as he had hoped. He continued to travel in his senior year, but not as much and with considerably less safety. He would "forget" his cane, and yet he knew it was apparent to others and to himself that he needed it. This did not resolve itself until the end of his senior year. His mobility instructor and I were unaware of the affects of George's change in vision and did not offer him the help he needed until quite late in the spring. Though his vision was in a state of change from the time of his operation until about six months afterward, George should have been seen monthly by the instructor, and his vision evaluated for independent travel. The boy needed guidance about what the increased vision actually meant in relation to his ability to travel. There now is no doubt that this boy will use his travel skills for the rest of his life as a blind person. George regards his mobility training as "the beginning of my belief in myself."

***

ROSS #16
17 years, 11th grade,
R.L.F., Some light perception,
97 periods of instruction.

Before being accepted into the program Ross had some training in the use of the cane, but he seldom left his home. Without the cane, he walks slowly, shuffling his feet. When he entered into training he seemed to be insecure. He was attentive and cooperative throughout training. His mother gradually gave him more freedom to travel. He progressed through the unit on bus travel and can now manage independently. His lack of poise and body coordination limits his effectiveness as a traveler. He needs corrective physical education and general body building exercises.

ROSS (cont.)

Teacher's Evaluation: Ross doesn't lean so much now upon other blind persons. If he has a "new" destination here at school, he doesn't just ask for a guide, and then start walking without first thinking about how to get there and asking "directional" questions. He has a reasoned approach to a problem.

***

DARLENE #20
18 years, 12th grade,
F.L.F., Some vision until 10th grade,
82 periods of instruction.

Darlene had no training whatsoever before entering the program, and she used a sighted guide for all of her travel needs. After pre-cane training, her knowledge of the school grounds was excellent. Although highly motivated toward mobility, she was at first very tense and tended to panic easily. She feared failure. Her fear of making mistakes slowed her progress and, eventually, it led to her resisting the program. Some notable progress was made, however. Darlene learned to handle simple street crossings and small business areas with wide sidewalks. Her traveling is more relaxed and if she has trouble she doesn't panic quickly.

Teacher's Evaluation: She was very pleased with her mobility instruction and I'm sure it increased her general feeling of independence. She has now dropped out of school. I had hoped that such instruction would be helpful in getting her to continue her schooling.

***

CLARA #21
17 years, 12th grade,
R.L.F., Light perception,
163 periods of instruction.

Clara had no prior training and depended upon a sighted guide. At high school, however, she traveled independently to all of her classes without aid. She was highly motivated to travel independently and her attitude during training was excellent. Her parents permitted her considerable freedom, encouraging and assisting her toward independence. When training was initiated, there was some reluctance or skepticism about using a cane, but with training this disappeared. She can and does travel independently, using public transportation, to suburban business areas and to the university she attends. She also has traveled alone, by air, to other cities in the State.

***

HARRY #22
14 years, 9th grade,
R.L.F., Sees light and dark,
127 periods of instruction.

Harry has some usable vision but has had no previous training. His scholastic record is average or better. He and his parents were very anxious to have instruction. He displayed a cooperative attitude, and progressed through business travel. He handles the cane well and is a good traveler.

Teacher's Evaluation: Harry has a fine sense of direction. As a result of orientation and mobility training, he travels very surely and quickly from place to place. Since he has a hearing loss in one ear, the travel training has helped him overcome problems with this second limitation. He has shown a good attitude toward cane travel and will practice around his neighborhood.

***

TED #23
16 years, 10th grade,
Diagnosis unknown, Peripheral vision O.U.,
23 periods of instruction.

Because he was "always bumping into objects," Ted was referred to the program. While the eye report was not available, it was thought that he possessed useful travel vision. He was traveling in residential areas, but had difficulty judging stop lights. His cooperative attitude and his desire for independence were valuable assets. He made progress in handling stop lights and in handling business travel. After the initial period of instruction, the case was deferred until new needs were developed.

***

MAX #25
17 years, 11th grade,
Bilateral optic atrophy - age 5, O.D. No vision; O.S. Light perception,
197 periods of instruction.

Max had not received any training before entering the program. Using his residual vision, he traveled independently only on the school grounds. He has a history of medical problems that affected earlier mobility, but these had been corrected or alleviated. Before training, his parents neither encouraged nor discouraged his independent travel. After Max had received mobility instruction, they were more in favor of his traveling independently. During training, he was slightly reluctant and self-conscious, especially with exercises involving the cane. He prefers to travel with others. After training, however, he can and does travel independently to businesses in the home area.

MAX (cont.)

Teacher's Evaluation: Max has some residual vision in his left eye, which has enhanced his ability to move about in his environment when there is sufficient light. Instruction in the use of the long cane, however, did make it possible for him to get about our campus efficiently, and he often said that it gave him a sense of freedom he had not experienced before. From his home area he can, and often does, travel to and from an electronics firm and the post office--both some distance from his house. He now lives on campus at the college where he is completing two years of work. I know that he uses his cane on campus. But from talking with him I have the impression that he does not use his mobility skills very often to get between school and home, depending instead upon friends and his parents to drive him rather than upon riding busses. He hesitates to cross busy streets; however, he will cross a busy street by our campus. Using the cane has helped Max enlarge his circle of friends for two reasons: (1) youngsters were curious about the cane and its use, and (2) Max was able to travel more freely with others and to make his way to the homes of some of his friends.

***

BEN #26
16 years, 11th grade,
R.L.F., No vision,
149 periods of instruction.

Ben is an above-average student, and his family has a helpful, positive attitude toward mobility instruction. He had several hours of instruction from a local private agency. It was the specialist's impression that Ben's techniques had not been improved by this training. Ben was using the cane when he was admitted to the program. He was somewhat hyperactive and had a "heavy-footed"gait. He was fairly well acquainted with his neighborhood. While in training, he attended the Albany Center during the summer. He progressed to Unit IV (Business Travel) while in the Project. Inattention and mental lapses were frequent. Often he failed to retain knowledge of streets, etc., and used poor cane technique at times. Since he had acquired an adequate knowledge of the technique, he was put on the deferred list.

Teacher's Evaluation: While Ben's travel with the cane is awkward and clumsy he is highly motivated. And as a result of his training he is independent. He travels alone to the local university, throughout his residential area, and has taken trips throughout the city. He finds his social life enhanced by being able to schedule appointments and dates on his own. He loves feeling independent.

***

TIM #27
20 years, 14th grade,
R.L.F., No vision,
85 periods of instruction.

Tim had received training at the State Orientation Center. With a cane he traveled independently on the college campus. On all other occasions he depended upon a sighted guide. His attitude during training was fine. Tim's parents encouraged his independent travel and permitted him considerable freedom. He now travels independently in his home area. At college he is living off campus, and he travels independently to the campus and on campus.

***

NANCY #28
16 years, 10th grade,
R.L.F., No vision,
73 periods of instruction.

Although Nancy had received some orientation and mobility training, she used a sighted guide as her chief means of travel. She desired to be independent. Her knowledge of the high school grounds was limited, and she became lost easily. She and her parents had a favorable attitude toward mobility. Nancy had great difficulty conceptualizing, which proved to be a formidable barrier to her effective learning. Some progress was made; she can now travel independently on campus. However, more training in conceptual knowledge is recommended.

Teacher's Evaluation: Nancy asked for orientation and mobility training. She appeared to be slower in grasping the principles, but she did learn how to orient herself by various clues. She looked forward eagerly to cane travel in her own neighborhood so that she could be more independent.

***

GERALD #29
13 years, 8th grade,
R.L.F., No vision,
66 periods of instruction.

This boy has better than average academic ability. His parents were pleased that he could receive training, and they cooperated fully with the instructor. The initial training dealt with assistance in getting around the high school campus. Gerald received instruction relating to his neighborhood, and he always practiced independently between lessons. His cane technique was excellent, and he acquired a good ability to use landmarks. Training was suspended when he satisfied his immediate needs--mastery of the high school campus and ability to travel throughout the neighborhood.

***

MARY #30
14 years, 9th grade,
Retrolental-Glaucoma, Sees shadows,
59 periods of instruction.

From the onset Mary resisted cane travel. She showed a dislike for her daily lesson plan by feigning illness or begging to be excused because of boredom. To her, the cane was merely a badge of blindness. Only 59 hours were given in one semester, and about half of these were used in discussions relating to travel and in introducing the cane. Mary did not profit by any of the travel, and depends upon her family to take her about. Since she loves animals she may, at a future date, care to consider the possibility of a guide dog.

Teacher's Evaluation: When Mary came to this high school, she brought a cane with her, stating that she had already received training in mobility. It was obvious from her travel that her brief training was only superficial and that it gave her a false sense of confidence. Since she was not using her cane properly on campus, it became more of a hazard than a help. She was convinced that it might be better to leave her cane at home. When Mary was admitted to the demonstration project, she was equipped with the proper cane for her, and was taught how to travel with it. However, she had already developed an intense dislike for the cane and would not use it other than when it was required for the course.

***

LINDA #31
14 years, 9th grade,
R.L.F. and Glaucoma, No vision,
75 periods of instruction.

Linda was interested in entering training, and she seems to have the intellectual and physical capacity to succeed. She was well oriented on the high school campus, but possessed limited knowledge of her neighborhood. She has a limited commitment to the cane. She completed Unit V--Business Travel--and is able to travel through the neighborhood and to the local store alone. Her skills are very adequate; it is hoped that she will continue to use the new skills she has acquired.

Teacher's Evaluation: Linda is a delightful example of poise, ability, and determination. She seems to "see" where she is going because of her excellent use of mobility know-how.

***

ARTHUR #35
18 years, 12th grade,
Prothesis O.V.,
108 periods of instruction.

After training with a local private agency, Arthur possessed good pre-cane skills. When he was admitted to the program he understood the environment well and used landmarks effectively. He was anxious to obtain training in business area and in the use of public transportation. He was very cooperative, and he completed Unit V--Business Travel--and now travels in unfamiliar areas with limited aid. He plans routes well and is able to select the particular aid he needs to arrive at an objective.

***

SYLVIA #37
14 years, 9th grade,
R.L.F., Some light perception,
75 periods of instruction.

Sylvia had no previous training in orientation and mobility techniques, and used a sighted guide for limited travel. She did not know her high school campus, and was unacquainted with her neighborhood. Sylvia's attitude toward mobility was fair, her family's good. When she completed training she could travel independently on the school campus, and she knew all of the streets around her own block. Her progress was hindered because of her awkward gait. At the end of her training, she remained somewhat indifferent to the cane. Some further training in cane travel and compass points is recommended.

Teacher's Evaluation: She had some serious difficulty as a small child that left her with a stiff-legged, flat-footed gait. Sylvia walks almost like a mechanical doll. She was "lost" on the high school campus. The instructor was most patient in going over and over some travel patterns. Her improvement was very marked. I am not aware of her travel in the home area, but here at school she lost all her fear of new places on campus, learned a few "landmarks" and carried on from there.

***

DEBBIE #38
14 years, 9th grade,
R.L.F., Barely light perception,
77 periods of instruction.

Debbie is a relatively poor student academically. She used a sighted guide for her limited travel before entering the program. She walks with a slight shuffle. She often got lost on the high school campus, and possessed a very limited knowledge of her

DEBBIE (cont.)

neighborhood. An indifference to training persisted throughout the program. She acquired a workable knowledge of her campus and neighborhood before termination of her training on Unit IV--Residential Travel. Debbie needs intensive work with simple block travel before going on to business travel.

Teacher's Evaluation: Although she had no physical problems relating to walking, Debbie was very dependent upon a sighted guide. Her instructor showed much patience and understanding with Debbie, and now she is able to go anywhere on campus alone. She needs more training, but her improvement has been marked.

***

CHERYL #39
18 years, 11th grade,
Congenitally blind, Some light perception,
59 periods of instruction.

Cheryl had limited prior training and depended upon a sighted guide to travel. Residual vision was effective for limited independent travel on school grounds. Her attitude during training was superior. Her parents encouraged her independence and independent travel. She showed no reluctance to use the cane, and she now travels independently within a mile radius of her home and to and from school. She plans to attend college and to commute by public transportation.

***

ELLEN #40
15 years, 10th grade,
R.L.F., No vision,
83 periods of instruction.

This student had to start with the basic techniques, turns, and the cardinal directions. Mobility in the home area was limited to her own yard. She had a limited concept of her environment. She wanted help with her high school campus travel. After six weeks of training, she mastered the high school grounds, and before being terminated she had progressed through business travel. She continued to "pump" her cane, showed insecurity, and often failed to retain the instruction. Since her concept of objects, space, and direction is poor, she will have difficulty traveling in new areas. When she negotiates a simple route of five blocks she is likely to get off the route and make an unsatisfactory recovery. She still needs extensive training in the development of spatial concepts.

***

JOANNE #41
17 years, 12th grade,
R.L.F., Light perception only,
98 periods of instruction.

Around the high school campus Joanne could function fairly well. However, she lacked adequate concepts of the environment. She seldom employed the basic techniques. Her posture and coordination were good. She relied mainly upon sighted guides, but had a desire to travel independently. During training she tended to be careless, but compensated for this somewhat with her desire to achieve. She progressed to Unit V--Business Travel--and had some experience in a light business area. Because of her good potential, training should be resumed as new life-needs are generated.

***

LORRAINE #42
15 years, 11th grade,
R.L.F., Light perception,
185 periods of instruction.

She had no previous training and depended upon a sighted guide to travel, except to her classes on the school grounds. She had an excellent attitude during training. Her parents permitted her considerable freedom. After training, Lorraine can and does travel independently in her area to stores and a shopping center.

Teacher's Evaluation: Lorraine took to mobility training like "a duck to water." She is thrilled with her new-found freedom. Even though she is in the middle of her training, she is allowed to go to certain places in her home neighborhood that involve what she has learned so far. All of her instructors noted the improvement in her posture, walk, and general demeanor. She simply is not stiff any longer, and the cane has definitely "become a part of her." But most of all it has helped Lorraine's remarkable wit and sense of humor to come forth with agility. This sort of help may not be clear to others, but to me there appears to be a definite relationship, intangible though it may be. Lorraine's normal childhood led her to accept her own independent travel as a natural part of her growth. She showed no resistance to learning mobility, but rather embraced its possibilities with delight. She has said how much easier the cane makes traveling to her classes and along the corridors in the heavy traffic between classes. She obviously enjoys using the cane, and watching her use it is a lovely experience.

***

PETER #43
17 years, 11th grade,
Cataracts - 6 years, No vision,
90 periods of instruction.

Peter had some previous training in orientation and mobility, including the use of a cane which he used mainly for campus travel. He had no instruction in using the cane for street crossings or for more difficult travel. His knowledge of the high school campus was excellent, but he lacked a knowledge of his neighborhood. At first, Peter tended to regard mobility training as a joke, but as training progressed he became quite enthusiastic. His family's attitude was supportive. When the training period ended, Peter had learned how to travel in small business areas and how to cross elementary red light streets. His needs for the present are satisfied, but it is recommended that later he learn how to manipulate advanced business areas and more complicated street crossings.

Teacher's Evaluation: He showed an improvement in self-concept. As a result of his mobility training he also learned to travel about the high school campus without getting lost. However, Peter's deeper personality problems remain.

***

LAURA #46
14 years, 9th grade,
R.L.F., Barely light perception
75 periods of instruction.

Laura had no prior training. This young lady from the onset had great physical agility, poise, posture, and demeanor, aside from great motivation to use the cane. She looked forward eagerly and enthusiastically to cane travel. She progressed rapidly, traveling quite well in the downtown area of the small city in which she lives. Her technique in handling the cane and her above average ability to use it properly remained constant throughout the training. Extensive travel training was given in the downtown areas of the city. She had many successful runs to the city hall, the public library, and to other Civic-center buildings in addition to visiting all the major stores in town.

Teacher's Evaluation: Laura is very quick to learn anything that she feels will make her more effective. Her travel is good. She is alert, and she made the most of her good training.

***

KAREN #47
14 years, 9th grade,
R.L.F., Barely L.P. in O.D.; Losing L.P. in O.S.,
81 periods of instruction.

The sighted guide was the chief means of Karen's limited travel when she was admitted to the program. She and her parents wanted the training, and they proved to be very cooperative. She completed the program through Unit V--Business Travel--and is rated as a good traveler. Her heavy load of extra curricular activities at school somewhat limited her practice on new skills.

Teacher's Evaluation: Karen is a good traveler. She is able to execute all of the techniques taught to her. She is well poised and an intelligent traveler.

***

SCOTT #48
15 years, 10th grade,
R.L.F., O.D.-L.P.; O.S. 20/400,
184 periods of instruction.

Scott had no training before entering the program and depended upon his residual vision. He traveled independently on the school grounds and within several blocks of his home. Attitude was excellent during training. His parents neither encouraged nor discouraged independent travel, but did permit Scott considerable freedom after training. He lacked the maturity and the knowledge of the environment necessary to travel beyond his immediate neighborhood. Because he had residual vision, he did not need a cane and his training was adjusted to this. At the completion of training he travels independently from his home to suburban business areas, frequently commuting on public transportation.

Teacher's Evaluation: Mobility instruction has been the greatest thing that ever happened to this boy. This is straight from the boy's own words and my own feelings. The instruction has increased his sense of responsibility, his awareness of people, and his capacity to deal effectively with these.

This boy started on the cane, and would have been continued with cane instruction if it had not been for his showing up with his glasses one day. He had worn glasses for four years but hated to wear them although it was readily apparent that they gave him increased vision. In effect, then, the mobility instruction "taught him to see," allowed this boy to learn to travel effectively, to wear his glasses every waking hour (he won't be without them now), and showed him how to use his vision to read print. For years, teachers had encouraged him to use his vision, but to no avail. The critical learning involved in mobility training made him mature as nothing else had been able to do.

SCOTT (cont.)

One day this spring, Scott arrived home from school to find he had left an English assignment in the resource room. Performing this assignment was not too important, and he wouldn't have given it a second thought in the past. But this boy took the public bus to school, got a custodian to open the room, took the public bus back home, and did the assignment. In his words, "I realized I didn't really have any excuse not to get the paper. I could go on my own like any other kid, so I did." This is the classic expression of his growth. There is no longer any self-pity for himself, though he still is aware of his handicap. But here is a boy who might never have accepted the fact that he really could see better than he would allow himself to admit or to tolerate.

***

CLIFFORD #49
15 years, 9th grade,
R.L.F., No vision,
125 periods of instruction.

This student had a below average record academically, and relied upon a sighted guide. He was somewhat indifferent to the training when he entered the program, but showed some improvement as training progressed. He progressed in his training through Unit V--Business Travel--and now handles stores well and is able to use public transportation.

Teacher's Evaluation: As a result of travel training, Clifford's self-confidence has improved greatly. On many occasions he was able to prove himself more adept than his peers in finding objectives. He likes the feeling of independence and has found that cane travel expands his horizon. He has positive attitudes toward using the cane.

***

## Discussion of Program and Services
### Survey of Teachers' Reactions

It was one of the objectives of the Project to involve classroom teachers in the orientation and mobility instructional program. If the classroom teacher of a blind child is acquainted with the basic techniques of orientation and mobility, she should be able to assist with the instruction in the five following ways:

1. Interpret the program to the child so that he will know its objectives.
2. Give direct instruction in selected basic skills.
3. Assist the orientation and mobility instructor in planning his program.
4. Reinforce all skills taught by orientation and mobility by providing opportunities for practice.
5. Point out "new" needs as they arise in the life of the child.

Twenty-one of the teachers of blind children and youth in the demonstration region have completed a college course in orientation and mobility. The course was designed to provide the fundamentals relating to basic orientation and mobility skills. A survey was undertaken late in the 1966-67 school year to determine the teachers' familiarity with the skills and to obtain an estimate of how well satisfied they were with their efforts to instruct children and youth in the use of these skills. A list of major skills and subskills were supplied to each teacher who was asked two questions:

> Do you believe you have sufficient knowledge of these skills to enable you to teach them effectively?
>
> How would you appraise your success in teaching these skills?
>
> If satisfactory, then check (✓) Column III.

The major skills inventoried and the responses of the teachers are summarized in Table III. A copy of the Survey form is available upon request.

It appears that the teachers believed they understood and that they could teach most of the basic skills with confidence. They expressed some uncertainty about their knowledge of (1) "Hines Break," (2) ways to apply familiarization in school settings, and (3) how to work with parents.

## TABLE III

## TEACHERS' KNOWLEDGE OF BASIC SKILLS AND THEIR SUCCESS IN APPLICATION (%)

(n=21)

| Skills | Adequate | | Knowledge | Success in Applying | | |
|---|---|---|---|---|---|---|
| | Yes | No | No Answer | Sat. | Limited | Other |
| USE OF SIGHTED GUIDE | | | | | | |
| Proper grip | 100 | -- | -- | 81 | 14 | 5 |
| Proper position | 100 | -- | -- | 81 | 14 | 5 |
| Handling of: | | | | | | |
| Doorways | 90 | 5 | 5 | 71 | 14 | 14 |
| Seating | 90 | 5 | 5 | 76 | 10 | 14 |
| Narrow openings | 95 | -- | 5 | 71 | 14 | 14 |
| Congested areas | 86 | 10 | 5 | 62 | 24 | 14 |
| Stairs | 90 | 10 | -- | 67 | 29 | 5 |
| Curbs, etc. | 95 | 5 | -- | 43 | 43 | 14 |
| Hines break | 62 | 33 | 5 | 43 | 24 | 33 |
| Using aid | 86 | 14 | -- | 52 | 24 | 24 |
| Refusing aid | 76 | 24 | -- | 38 | 33 | 29 |
| FOREARM ACROSS THE BODY | 95 | -- | 5 | 52 | 43 | 5 |
| Search patterns | 95 | 5 | -- | 71 | 24 | 5 |
| Shaking hands | 90 | 10 | -- | 57 | 38 | 5 |
| TRAILING | 100 | -- | -- | 76 | 24 | -- |
| SQUARING OFF AND DIRECTION-TAKING | 100 | -- | -- | 71 | 29 | -- |
| FAMILIARIZATION | | | | | | |
| Applied to following: | | | | | | |
| Resource classroom | 95 | -- | 5 | 95 | -- | 5 |
| Regular classroom, if appropriate | 81 | -- | 19 | 71 | 14 | 14 |
| Rest Rooms | 90 | 5 | 5 | 81 | 19 | -- |
| Routes to classrooms | 95 | -- | 5 | 86 | 14 | -- |
| SHARES KNOWLEDGE OF THESE SKILLS AND MODES OF TRAVEL | 76 | -- | 24 | 67 | 10 | 24 |
| With students | 86 | -- | 14 | 81 | 14 | 5 |
| With parents | 66 | 14 | 19 | 24 | 38 | 38 |

There was some dissatisfaction expressed with their success in applying the following skills:

1. Managing stairs and curbs
2. Forearm across the body
3. Shaking hands
4. Working with parents

One may conclude that with one or two exceptions approximately 75% of the teachers were satisfied with their success in teaching the basic skills.

## Teachers' Comments

The comments supplied by the teachers help to explain why difficulties were expressed in handling certain skills. Some of the more appropriate comments are summarized below.

### Sighted guide:

Children in the lower elementary grades prefer to hold hands while traveling. Young child does not feel a need for such a formal skill.

Blind child seems to want and enjoy more personal contact.

Skill not used in the home so hard to apply in school.

No stairs around school so no chance to practice climbing with a guide.

No curbs on school yard so do not have opportunity to practice.

Difficult to get enough time to supervise practice.

### Trailing:

Young children resist, even resent, trailing.

Young children do not feel the need for the technique. They often forget to use it.

Older children identify the skill with immaturity and a device for young children.

### Forearm across body:

Younger children resist such a formal skill. "It makes them look silly."

Children need reminding to keep arm away from the body.

Search patterns:

Younger children do not readily use the systematic patterns.

Some children become frustrated with the patterns.

Shaking hands:

Young children resist it.

One needs to wait until a child is ready for this social skill.

Squaring off:

Very successful if taught and then followed up with practice until well learned and established.

Child veers and loses his direction. Children do not feel the need for the skill.

Application of familiarization technique:

Lack of time to teach the technique.

Regular teachers in integrated program are always rearranging the seats and other furniture in the room.

Children seem to learn their own ways of managing toilets.

Women teachers do not have a planned opportunity to show the boys the layout of their restrooms.

Some children continue to depend on others and are not motivated to learn independence.

Sharing knowledge of orientation mobility with parents:

The specialist is better able to assist parents.

Teacher does not have time to do systematic work with parents.

Teacher cannot tell how to determine how much follow-up there is in the home.

Some parents resist plans to make the child more independent.

General reactions:

Children from homes where the parents received instruction from the specialists react more favorably to the instruction by the teachers and their children want to know the skills.

Teacher in the resource room often deals with orientation and mobility on an "emergency" basis. Perhaps it would be well to schedule time for the instruction.

Children soon become familiar with the school environment. Since they also know the home environment, they do not feel a real need for the skills. If they are taken to a new environment, then a sighted guide is with them.

Many pressures such as the following limit the time given to instruction by the teacher:

Pressure for academic achievement to maintain the child's place in the regular grade.

At the time the children need assistance most (the beginning of the school year), the teacher is exceptionally busy with the required duties so that the mobility training is neglected.

Due to pressure of time, group training is employed which is not an adequate substitute for individual instruction.

Low Vision Cases

Major attention throughout the demonstration was given to youths who were blind or had light perception only since these cases seemed to be in greatest need of assistance. However, it was recognized very early in the Project that children and youth with low vision should receive assistance in making maximum use of their sight, especially when handicapped by poor lighting. It is generally recognized that within the several handicapped groups marginal cases often find themselves in an awkward "in-between position"--too handicapped to be normal but not sufficiently handicapped to have full status as a handicapped person. Since reduction in light greatly reduced the efficiency of vision, it would appear that low vision cases might need a special type of assistance to function to their capacity.

The low vision cases often had a false notion of their abilities to travel and did not seek assistance too readily. There was a desire not to be labeled blind or to be considered dependent. The long cane became to them an admission of blindness. Parents, in a general way aware of their own limitations, often restricted their children unduly. Such restriction may equal that given a blind child or youth.

Low vision cases tended to be very mobile in their home environments since they could use landmarks effectively. However, when they moved to a new environment they, too, had to learn the landmarks. Sometimes there appeared to be difficulty in identifying familiar types of landmarks when they were surrounded with an entirely different environment.

Many of the low vision cases seemed to be able to do more than the medical examination would indicate. As is well known, most of them could read print. It is not uncommon for all the remaining vision to be in one eye. The specialists reported that some cases had a limited acquaintance with their environment and that their spatial concepts were roughly like those of blind cases. Since low vision cases see light they are likely to be able to see lights at night from cars and perhaps are able to see traffic lights.

Four cases with low vision were among the 51 youths who received intensive training. The sample is too limited for being able to draw meaningful conclusions. However, brief comments relative to their response to training are supplied here. The names used are, of course, fictional.

### GEORGE

In addition to the regular training, he was given extensive training in travel at night in residential and business areas. He was able to distinguish traffic lights and, where no lights were available, he used cues as would a blind person. He reported night travel to be easier than day travel because eye strain was decreased and there was less congestion on the streets.

***

### MAX

Visual acuity is limited to large objects and contrasting objects. Intensity of light and direction at which it hits objects appear to be important. He often had difficulty traveling in new areas.

Initially, he resisted the cane. About half of his instruction was given under a blindfold. When he failed to use his cane, he usually encountered difficulties. His range of travel has been enlarged greatly as a result of training.

***

STEVE

He was able to distinguish objects (poles, cans, etc.) and variations in color or texture within his path of travel. He was able to distinguish traffic light changes during the day.

In addition to the regular program, he was instructed in night travel. A blindfold was tried but discontinued because it was difficult for him to readjust to light when it was removed. Despite his vision, he possessed only a limited concept of his spatial environment. After training, his parents gave him much more freedom to travel.

***

SCOTT

He requested the training and, although he did not need the cane, he would not have objected if it had been advised. His teacher reported that the orientation and mobility training greatly increased his self-concept and his sense of responsibility. It does appear that he had underestimated his capacity for travel due to this limited vision, and had profited from the reassurance provided by the orientation and mobility training.

***

## DISCUSSION OF INDEPENDENT FOLLOW-UP ON REPRESENTATIVE CASES

Since the ultimate test of training in a skill such as orientation mobility is in the usefulness to the individual, it was decided to hold interviews with a sample of subjects after they completed their training and had adequate time to evaluate the experience. Nineteen of the 51 cases that had extensive training were selected at random from the files, and personal interviews were held with the child and one or both of the parents. All interviews were made in the home, and a schedule was used as a guide. (See Appendix D).

The interviews were done by a graduate of the orientation mobility program at the College who was acquainted with the project but had not worked with the cases directly. Consequently, he approached the task with reasonable independence and freedom from involvement.

The interview with the child dealt with (1) extent of travel freedom to travel before and after training, (2) reaction to the training program itself, and (3) interest in the guide dog and the cane in particular. The interview with the parents related to (1) attitude toward orientation mobility before and after training, (2) reaction to certain features of the training program, and (3) interest in the use of a guide dog.

The interview proved exceedingly helpful in evaluating the total impact of the program.

The population used in the demonstration that received training consisted of students who were thought to be best able to profit from the instruction. In this sense, it was a select group. A selection of cases to receive training was necessary because of limited staff time. The students were in senior high school or had just left secondary school for a local college or university.

The observations of the independent evaluator who carried out the follow-up survey have already been reported for each of the 19 cases. (See Group I.)

It remains to point out some of the general findings and to interpret the survey.

The following generalizations were true for the entire group of cases in the follow-up.

1. Travel prior to intensive training was limited to the home, the immediate neighborhood, and to the school area.

2. The sighted guide was used extensively for assistance. One adolescent reported that he had never been around the block on which he lived.

3. All subjects confirmed the value of the specific training in the proper use of the sighted guide. One subject put it well by stating, "When I use the technique, I no longer feel I am being hauled around by someone."

4. All parents placed high value on the orientation and mobility training. In all cases, they stated that they would be willing to pay for such a service if necessary in order to have it.

5. All subjects reported the acquisition of a better knowledge of the community--street patterns, physical features, sidewalks, etc.

## Follow-up Summary

Some generalizations that were true for a majority of the cases included the following:

. The clients apparently profited most from training that enabled them to cross streets and to handle business areas near the home.

. Street crossing, however, continues to be the major concern of most students. This is understandable since the element of danger is predominant.

. Apparently the common problem of getting the cane caught in the grass plagues a good number of students.

. It appears that of all techniques taught to the blind, the sighted guide technique is used most often. Trailing and forearm across the body does not enjoy popularity. The indoor techniques were seldom used. In general, the students reacted favorably to the entire program.

## Problems of Adolescent Blind

In developing a training program in orientation mobility for blind adolescents, one can assume that a few facts or conditions relating to the adolescents and to blindness are likely to prevail.

1. The blind youth usually attends a school that is outside of his own neighborhood. The centralized service is likely to be some distance from his home. Consequently, his classmates are often not the neighborhood youths. His school friends, if he has any, are often residents of another community, and they are likely to be living some distance from him.

2. Blind youths, unfortunately, have had limited direct exposure with their environment. Some do not realize that there usually are sidewalks on both sides of the street. One youth in conversation with the interviewer revealed that he thought ducks had four legs and snakes two. The specialists frequently were amazed at the limited knowledge the youth had of common features of the environment, such as curbs, fire hydrants, stop lights, etc.

3. Adolescents especially are concerned about the fact that they look blind. The cane represents an admission that some adolescents make with reluctance.

4. Parents, in general, are very protective, especially of girls. The protective attitude is reflected in limitation imposed in travel. Parents may underestimate the skill of the adolescent youth, and often actively limit their scope of travel. This over-protection leads to home confinement and the development of "interests" within the home such as listening to the radio, TV, records, etc.

5. Normal adolescents are active creatures involved in exploration and in finding new experiences. The blind youth often cannot "keep up" with his sighted friend, and so gets left behind sometimes. Adolescents are on the move--on foot and in cars--and they expect mobility from their friends if they are going to remain friends.

6. The adolescent is finishing high school and just beginning to think of next steps. Often employment in a job is not too central in his thinking. He does not yet directly feel the demands to measure up to employment. In fact, his somewhat sheltered rearing has protected him from such demands. He therefore does not have a motivation for travel that is related to a vocation.

## Inplications for Training

Some space has been used here to characterize the adolescent and his world of activity. The adolescent who happens to be blind lives in this world too, and often finds the demands somewhat greater than his capacities. When one introduces orientation mobility training in the late high school years, the condition of adolescence and of blindness combine to create many special problems. At this point, it seems appropriate to state frankly some of the practical problems encountered in this Project by the orientation mobility training program, and some of the implications that were revealed by the follow-up study that was described earlier.

A few of the more positive findings will be reported first, and then some of the problems and issues that were revealed will be discussed.

> 1. There is no doubt that the training adds materially to the independence and self-concept of the individual. Cases usually expressed a feeling that increased skill in travel opens up for them new opportunities for experiences and a feeling of some independence. This is not to say that all cases take full advantage of the new skills they have acquired. The growth in independence often was reflected in increased academic performance, better posture, and a greater feeling of safety for the youth on the part of the parents.
>
> 2. Youths who had some well-defined immediate needs, such as a desire to handle a new campus, a desire to visit a rehabilitation center, seemed to profit most from the training. In a sense, they had places to go and things to do that seemed important to them at the moment.
>
> 3. Parents and teachers were more than satisfied with the training and the skills that the youths had acquired.

As one analyzes the reactions to the questions on the interview list and studies the applications being made of the new skills that were acquired, some important observations are apparent. These observations are stated frankly here, and the reader is cautioned that they are based upon a survey of 19 cases along with a general concensus of the staff.

> 1. Many blind children and youths are restricted and are over-protected by their parents. New skills in orientation mobility have limited value if parents set unrealistic limitations on the trainee. It was a clear impression that at least half of the homes did not allow the youth to explore the new "worlds" opened up to them by the training. The over-protection may be expressed by setting limits for the youth or it may be shown in a long-standing attitude in the family that has established habits of confinement on the part of the youth.
>
> 2. Training in a skill of any kind becomes functional as it is used to satisfy needs. Orientation mobility training is useful if the recipient of the training has need of the skills being taught. He must have "places to go and things to do" so to speak. The training must be a useful tool for him at the point in his life when it is supplied.

It does seem evident that many blind youths are not disposed to use much of the training that is supplied in a full training program. Most youths want and are permitted to get around the neighborhood and the school. Few are able to reach out much beyond these two environments. There are some reasons for these limits.

1. Often the restriction of parents is a factor.

2. The blind child has often experienced a home-centered life and has little interest in the "world beyond."

3. The adolescent in particular wants friends and activities. However, the blind youth often finds himself in a rather limiting circumstance. For example, his neighbors go to a different school while he is transported to a center in another district. His best friends among the blind seldom live near him. They too are from other school districts.

4. Some blind youths have limited personal resources, limited experiences, and therefore are not attractive to sighted friends who have had everything, so to speak.

5. The adolescent is terminating his high school training and is not yet involved in college or a vocational pursuit. If he goes to college or accepts a job, he does have some new mobility needs. If he does not do either, he just remains in the same isolated environment of the home.

6. The adolescent is especially conscious of his appearance and his acceptability by his peers. The carrying of a cane often adds a label that the sensitive adolescent finds hard to accept.

The observations just cited raise some questions with regard to (1) how to relate orientation mobility training to the needs of the particular case, (2) when the training should be started, and (3) how the plan of training can be flexible enough to adjust to the constantly changing needs of the individual. The analysis presented above leads one to question whether the adolescent period is an appropriate time for concentrated training in orientation mobility. One can properly raise a number of questions at this point regarding overall planning for orientation and mobility instruction for blind children and youth.

1. If orientation mobility training could be a continuous process beginning when the blind child begins to explore his environment (perhaps not later than age 2), would such a child reach adolescence with more security, greater motivation in moving out, and a more realistic notion of his entire environment?

2. Is it possible that most blind children and youth, because of a combination of factors, really have a very limited need for orientation mobility skills? To what extent is the limited need and motivation related to factors in the home and community? What are the possibilities of modifying these limiting factors and thereby creating a more normal situation for the blind?

3. Is it realistic to gear most orientation mobility training directly to the needs of the child, stage by stage, as he grows from childhood into adolescence and into maturity? Must a need for skills be developed before training is realistic?

4. Is it possible that blind children and youths should be deliberately given extensive out-of-the-home experiences (recreational, educational, spiritual) to develop a genuine desire for getting into the community to satisfy life needs? Is it possible that many blind youths spend most of their time at home because they cannot conceive of important and useful places to go?

## SUMMARY AND INTERPRETATIONS

1. Teachers, when trained in the techniques of orientation and mobility are capable of substantial contributions to the program. They are able to teach the pre-cane or basic skills with little difficulty. Teachers realize that much of their training is on an incidental or crises basis. Unfortunately, their schedules often are too heavy for them to give systematic training. Many of them favor training by a specialist who can take the youth into new environments and provide them with systematic instruction. Teachers understand the importance of orientation and mobility training, and are able to see many related values such as building self-confidence, increase in social interests, and appreciation of independence in travel.

2. The protective and restrictive attitude of the parents of blind children is one of the major factors in limiting training. Girls in particular experience travel limitation. The attitude of the parents is well fixed by the time the child reaches the secondary school. It is helpful to involve the parents in the training program, but many of their basic attitudes which often are related to their own personalities are not changed by discussions and demonstrations. Discussion groups and parent training make good parents better, and leave somewhat unchanged the parent who is insecure and who has not demonstrated skill in handling such problems earlier in the child's career.

3. The observation of the training by parents and the number of conferences with the specialists were reported in Table II. Similar data were reported for the teacher or other school personnel. The range of participation varied greatly from one to as many as nine contacts. The written evaluations by the teacher and the information supplied by the parents in the follow-up interviews clearly indicate that they profited from first-hand participation and, as a consequence, played an important role in the habilitation program.

4. The instruction in mobility provides a child with new skills and, therefore, opens up new experiences and new opportunities for him. These experiences may bring a long chain of new problems such as expanded acquaintance with the sighted, managing himself when he gets to the barber shop, and getting answers to the many questions resulting from the new explorations.

5. The staff was repeatedly surprised at the limited knowledge of blind youths regarding the physical environment in which they live. Often they did not have a meaningful first-hand experience with their own neighborhoods. For example, one youth did not know there were sidewalks on both sides of the street. Extensive experience with the environment should come early in the child's life and continue to be a major occupation.

6. Another problem of equal importance and one also very common related to the lack of physical development, agility, and physical confidence of blind adolescent youth. Often his posture is poor, his walking gait is uncertain, and he lacks confidence in his physical capacity to cope with situations. The practice of providing corrective physical education and encouraging physical development was endorsed by the specialists. The practice of excusing blind youths from physical education without providing an effective substitute is unfair to the youth so treated.

7. There is great variability in the speed at which blind youth "take to the training." Some cases that responded slowly and were on the verge of being discontinued by the specialist eventually responded and made remarkable progress. The typical adolescent requires about 100 class periods of instruction to develop the skills he needs (in this investigation, the typical adolescent received 108 periods of instruction; the Alameda County project reported 107).

8. Youths who are accepted for training will usually make substantial progress if the following conditions prevail:

a. He should have sufficient maturity to follow instructions and possess reasonable patience and willingness to work at the job.

b. He should have a need to travel, a desire to explore, a need for independence, curiosity, willingness to move, willingness to ask questions and to report observations.

c. He should have reasonable body coordination, bodily poise, ease of movement, awareness of the implications of body movements.

d. He must possess or be able to acquire from instruction adequate concepts of his environment and spatial relationships.

9. Visual ratings as reported by physicians for the school records seldom are helpful to the orientation mobility. As has been reported frequently in the literature, the amount of sight is a poor prediction of the child's skills. It would therefore be fruitful to explore the possibilities of constructing some practical tests of travel in relation to visual capacity. Youths who had the benefit of low vision clinics usually had a more realistic knowledge of their sight and the possibilities of using it than do children who have not had such experiences.

10. Double class periods are very helpful for many kinds of training, especially when the trainee needs to be taken away from the school area for practice.

While the physical education period was often used in this demonstration for the training, it is important to note that if the physical education program is properly planned it also is valuable for blind youth. Lack of physical coordination was often noted as a major deterrent to progress in orientation mobility.

11. Unfortunately, many blind adolescents have limited travel needs in relation to normal youths of similar age. Their social life is very limited; their vocational life is well ahead of them. Their travel often is confined to a high school campus and a neighborhood area. The school soon becomes a familiar environment, and few challenges arise to take them outside of the immediate neighborhood. Too many adolescent blind youths have such limited social and recreational lives outside of the home that there is limited use for top skills in mobility. Essentially, they have few places to go. When they go out, there usually is a sighted relative or friend upon whom they rely.

It therefore appears that active programs of recreation, travel, etc. should be instituted to generate normal travel needs. Orientation and mobility training would then become an important service to a youth in relation to these needs. Orientation mobility "instruction" in its broader sense should begin with the blind infant and continue progressively as new needs arise as he grows into early adulthood. As the blind child develops physically and socially and as his experiences approximate that of normal children, he will feel the need of increased skill in travel. Later, as an adolescent desiring and able to participate fully in community life, his orientation mobility skills become "natural abilities" employed efficiently at every turn while he moves freely in his environment.

12. Since the Project started, there has been substantial progress in projecting plans for the school of the County. The Office of County Schools is well informed in the possibilities of training and has worked with districts to project plans.

The Los Angeles City Schools has employed one specialist and will plan to add a second. As funds become available at least four other districts or combinations of districts will employ specialists. It therefore appears that soon the County will have services in each major geographic area.

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# APPENDIX

## APPENDIX A: SPECIAL PROJECT FORMS

### Initial Evaluation Form
California State College at Los Angeles
Mobility Demonstration Project

(condensed)

Date ____________

I. GENERAL INFORMATION

Name ____________ School Phone ____________
Address ____________ Home Phone ____________
School ____________ Grade ________ Age ________
Teacher ____________ Type of Program ____________

II. MEDICAL HISTORY

Diagnosis: ____________
Onset and prognosis: ____________
Visual acuity and field: ____________
Additional disabilities or limitations: ____________
____________
Hearing: ____________
Medications: ____________
General Health: ____________
Height: ____________ Cane Length ____________

III. SOCIAL INFORMATION

Parents' Name ____________
Address ____________
Number of Siblings ____________
Family attitude toward mobility: ____________
____________
Interests, clubs, or hobbies of student: ____________
____________

IV. EDUCATIONAL HISTORY

Academic Performance: ____________
Previous travel training (if any): ____________
By shom? Where? ____________

V. MOBILITY SKILLS

Means of travel to date: ____________
Basic Techniques: ____________
Knowledge of school grounds: ____________
Attitude toward mobility: ____________
General Information (posture, gait, etc.,): ____________
____________

VI. SUMMARY

____________
____________
Training Began: ____________ 19________

Mobility Instructor ____________

# APPENDIX A: SPECIAL PROJECT FORMS

## Instructor's Bi-Monthly Case Progress Report
## Mobility Demonstration Project

For period ending______________________________, 19________

Name________________________________________________

Level of training__________________Total periods to date______

Total periods___________to complete unit____________________

1. Techniques
   Knowledge of ___above average ___average___ below average__
   Application of ___ " " ___ " ___ " "

2. Concept and knowledge of environment - specify environment

3. Motivation - attitude toward training

4. Contacts with cooperating personnel (specify)

| | Parents | Teachers | Other |
|---|---|---|---|
| Observations | ______ | ______ | ______ |
| Conferences | ______ | ______ | ______ |

5. Special problems

6. Instructor's general evaluation

Mobility Specialist____________Date_____

# APPENDIX A: SPECIAL PROJECT FORMS

## Final Evaluation Form
## California State College at Los Angeles
## Mobility Demonstration Project

Date____________

### IDENTIFYING DATA AND BACKGROUND

Name________________ (Last) ________________ (First) Age____

School____________________ District__________

Type of School Program________ (Resource) ________ (Itinerate) ________ (Regular School) ______ (Grade)

Diagnosis____________________ Onset __________

Visual Acuity and Fields ____________________

______________________________

Additional Disabilities (None____) ____________________

______________________________

### TRAINING RECORD

1. Previous Orientation and Mobility Training ____________

   Who provided the training? Graduate of training Program ______

   Qualified Specialist ______

   Other ______

2. Training by Project Specialist

   Date initiated__________ Length of Cane __________

   Number of periods ____________________

   Level Completed (units) ____________________

   ______________________________

3. Follow-up--Retraining

   Special Needs: ____________________

   Periods Required: ____________________

## SUMMARY OF PROGRESS

| | INITIAL STATUS | FINAL STATUS |
|---|---|---|
| ABILITIES | Examples from campus or neighborhood | Unit level and or abilities |

### SUBJECTS ATTITUDE TOWARD TRAINING

a. Negative
b. Neutral or indifferent
c. Willing, performs on request
d. Very cooperative, observed practice, practices on his own

### PARENTS ATTITUDE TOWARD TRAINING

a. Restricts, shelters
b. Neutral
c. Supports verbally, encourages
d. Enthusiastic, practices with subject

### CLIENT'S ATTITUDE TOWARD THE CANE

### SPECIALISTS OPINION OF CLIENT'S PRESENT STATUS

# APPENDIX B

## INSTRUCTIONAL MODEL

### Objectives of Model

. To provide instruction in orientation and mobility techniques that will enable client to travel in familiar areas independently, and in unfamiliar areas with a minimum amount of assistance.

. To provide experiences to help develop within the client, self-confidence and initiative so that he may travel with maximum-optimum efficiency.

. To provide familiarization with the environment.

. To provide tactual-auditory experiences supplemented by verbal explanation of objects found in any environmental setting.

. To provide opportunities for the acquisition of a meaningful vocabulary of such terms and concepts as follows:

1. Directions - right, left, and compass points
2. Turns - right angle, 90°, half-right
3. Positional - behind, ahead, straight ahead, perpendicular, parallel
4. Textures - smooth, rough
5. Contours - walls, doors, flush doors, incline, decline
6. Distances
7. Intersections - stop signs, stop lights

During the teaching of all Units, the instructor also expects to evaluate the client in the following:

A. His ability to retain information and to understand and execute instructions given to him by the instructor

B. His ability to grasp concepts and use them in execution and interpretation thereof.

C. His general demeanor (behavior)
   1. Body posture
   2. Coordination
   3. Any manifestations of fear, frustration, anger, or an over-concern for safety
   4. Initiative-motivation
      a. Does he display natural curiosity to explore, over-explore, investigate, and ask questions?
      b. Does he work himself out of difficult situations without being told?
      c. Does he move with confidence and assurance?
      d. Does he use dominant clues, landmarks, and remaining senses to the best of his ability?

In the subsequent lessons the sustained progress of the client from lesson to lesson will be based upon his successful proficient demonstration and comprehension of each preceding lesson.

# INSTRUCTIONAL MODEL

## Outline of Units and Sections

Unit I - Basic Techniques

- Section 1 - Sighted Guide
- Section 2 - Forearm Across the Body
- Section 3 - Trailing
- Section 4 - Squaring Off and Direction Taking
- Section 5 - Broad Application of Learned Techniques

Unit II - Introduction to Cane Travel

- Section 1 - Diagonal Cane Technique
- Section 2 - Touch Cane Technique
- Section 3 - Descending and Ascending Stairs
- Section 4 - Broad Application of Learned Techniques

Unit III - (Optional) Concepts Relating to Residential Environment

- Section 1 - Around the Block Travel
- Section 2 - The Relationship of the Conventional Residential Block to the Extended Grid
- Section 3 - Intersections

Unit IV - Residential Travel

- Section 1 - Sidewalk Travel
- Section 2 - Guidelines
- Section 3 - Street Crossings (Square Curbs)
- Section 4 - Curb Following
- Section 5 - Street Crossings (Rounded Curbs)
- Section 6 - Gasoline Stations
- Section 7 - Street Crossing (Traffic for Direction)
- Section 8 - Street Crossing (Without Stopping to Take Direction)
- Section 9 - Stoplight Crossings (Elementary)
- Section 10- Stoplight Crossings (Advanced)
- Section 11- Home: Simulate Belonging to Client
- Section 12- Broad Application of Learned Techniques

Unit V - Business Travel

- Section 1 - Cane Techniques for Congested Areas
- Section 2 - Revolving Doors
- Section 3 - Escalators
- Section 4 - Elevators
- Section 5 - Broad Application of Learned Techniques

Unit VI - Special Situation

- Bus Travel
- Campus Orientation

## APPENDIX C: FOLLOW-UP SURVEY FORMS

### Teacher's Appraisal of Orientation and Mobility Training

Student's Name ________________________________ School ___________

To _______________________________

I have just completed a follow-up on the above student and would appreciate incorporating in my report your appraisal of his response to Orientation and Mobility Training. We hope you will be frank in your statement and report.

What is your overall appraisal of the student's response to the training? If possible, cite examples of achievement or lack of achievement.

_________________________________
Specialist

_________________________________
Teacher -

## APPENDIX C: FOLLOW-UP SURVEY FORMS

### Interview Form for Blind Youth Who Received Orientation and Mobility Training

(condensed)

Interview of:______________________________ Date__________
name

**Travel Practices (Extent)**

1. How has the instruction changed your travel practices?
2. What do you do now that you couldn't do before?
3. Greatest distance (most difficult route) you travel now?
4. Greatest "obstacle" or difficult situation you now handle?
5. How has it helped you at school?
6. What different situations do you now handle that you couldn't before?

**Freedom to Travel**

1. Has the training changed your freedom to travel? How? (explain)
2. Are you now able to go every place you wish to go? (explain)

**Reaction to Cane**

1. When do you use your cane? When don't you use your cane?
2. What troubles do you have in using the cane?
3. What other mobility techniques do you use regularly? (explain)

**General Reaction to Training**

1. Has the training given you a better notion of your community? Illustrate (streets, curbs, etc.) (concepts) What new things did you learn? (explain)

2. What part of instruction helped you most? Illustrate.
3. What helped you least?
4. Do you plan to get a guide dog eventually? Why?
5. Were you taught how to use a sighted guide? Show me how you do it.

6. Is the sighted guide technique helpful to you? Why?
7. What are the principal travel problems you still have? (explain)

# APPENDIX C: FOLLOW-UP SURVEY FORMS

## Parents' Reaction to Formal Training In Orientation and Mobility for Blind Youth

(condensed)

Child's Name ________________________________________ Date __________
Interview of: Father ______ Mother ______ Both ______

1. How would you describe or characterize your child's interest in orientation and mobility training?

| Before Training | After Training |
|---|---|
| Amount of Interest | |
| 1.1____Little | 1.4____Little |
| 1.2____Considerable | 1.5____Considerable |
| 1.3____Above Average | 1.6____Above Average |

Comments:

2. How would you describe/characterize your own interest in orientation and mobility training for blind youth?

| Before | After |
|---|---|
| 2.1___Little Interest | 2.4___Little Interest |
| 2.2___Somewhat Interested | 2.5___Somewhat Interested |
| 2.3___Very Interested | 2.6___Very Interested |

Comments:

3. If orientation and mobility training could not be provided unless the parents paid a fee, would you be willing to pay? (Cost would be similar to rates charged by special tutors)

3.1___Yes
3.2___No
3.3___Undecided

Comments:

4. Before your (son) (daughter) took the training the instructor had a conference with you.
   - 4.1 Was this conference helpful? Why?
   - 4.2 Did you attend the parent meeting conducted by Mr. Blaha? Yes___ No ___
   - 4.3 Were they helpful? Why?

5. Try to describe your (son's) (daughter's) travel practices for me both before and after training. In what ways have his travel practices changed?
   - 5.1 How would you describe his degree of security and independence in a familiar setting?
     Before After
   - 5.2 What is the most distant point (or most difficult route) he (she) traveled alone repeatedly?
     Before After
   - 5.3 Do you feel your child travels now with safety and security? (explain)

5.4 What is the greatest problem your child encounters in travel?

5.5 What has been the greatest value that has resulted from your child's orientation and mobility training?

5.6 Have you considered getting your child a guide dog?

5.7 Do you consider that the guide dog or the cane gives the greater mobility to a blind person?

# APPENDIX D

## HIGH SCHOOL DISTRICT OF PROJECT CASES

| District | Case No. |
|---|---|
| Alhambra City High School District | 1,15,19 |
| Arcadia Unified School District | 8,13 |
| Azusa Unified School District | 17 |
| Baldwin Park Unified School District | 28 |
| Burbank Unified School District | 53,36 |
| Centinela Valley Union H.S. District | 5,21 |
| Covina-Valley Unified School District | 12,49 |
| Downey Unified School District | 52 |
| Duarte Unified School District | 32 |
| El Monte Union High School District | 6,44,46,47 |
| Excelsior Union High School District | 39,23 |
| Glendora Unified School District | 10 |
| La Puente Union High School District | 45 |
| Long Beach Unified School District | 18,35,40,41,27 |
| Los Angeles Unified School District | 3,7,11,16,20,26,29,51,54,55 |
| Monrovia Unified School District | 30 |
| Santa Monica Unified School District | 33 |
| South Bay Union High School District | 2,24,25 |
| Temple City Unified School District | 9,31,34,37,38 |
| Torrance Unified School District | 14,42,48 |
| West Covina Unified School District | 4,22 |
| Whittier Union High School District | 43,50 |